

103

# THE STATUS OF PLANNING FOR THE 2000 CENSUS AND THE 1995 CENSUS TEST

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Y 4. P 84/10: 103-59

The Status of Planning for the 2000...

## HEARING

BEFORE THE  
SUBCOMMITTEE ON CENSUS, STATISTICS AND  
POSTAL PERSONNEL  
OF THE  
COMMITTEE ON  
POST OFFICE AND CIVIL SERVICE  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED THIRD CONGRESS

SECOND SESSION

SEPTEMBER 27, 1994

Serial No. 103-59

Printed for the use of the Committee on Post Office and Civil Service



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# THE STATUS OF PLANNING FOR THE 2000 CENSUS AND THE 1995 CENSUS TEST

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TUESDAY, SEPTEMBER 27, 1994

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON CENSUS, STATISTICS  
AND POSTAL PERSONNEL,  
COMMITTEE ON POST OFFICE AND CIVIL SERVICE,  
*Washington, DC.*

The subcommittee met, pursuant to call, at 2:20 p.m., in room 311, Cannon House Office Building, Hon. Thomas C. Sawyer (chairman of the subcommittee) presiding.

Members present: Representatives Sawyer and Petri.

Mr. SAWYER. Thank you all for your patience. It is really one of those times of the year. I am grateful to everybody and glad that it is a group of people who are more or less regular partners of this committee and the work that we do.

The 1995 Census Test is just a few months away. It really offers the very best opportunity that we have to achieve what we have all been working for for a long time now, and that is a census that is more accurate and, if possible, less proportionally costly and able to meet the Nation's information needs.

I feel very good about the directions that the Census Bureau has been going in and they are about to test many of the right kinds of innovations. I have been pleased to watch what can only be described as near consensus develop among experts such as some testifying today on this point.

The lingering question is whether these test results will produce pure, clear, unequivocal answers to suggest whether and how we might implement those new methods. And the test ought to tell us not only what works, but how much we think it will cost.

Those kinds of results have to be timely. Even though the census still seems a long way off, the schedule is extremely tight. The dollars have been tight. We have all struggled and tried to make as much of the opportunities that have been before us as we can, but no sooner than the ink is dry from 1995, we will be faced in 1996 with the need to determine content and then go on to procure massive amounts of material.

So the choice of methods is important. So are the choices that will follow. Hundreds of thousands of people are involved. We are pleased to have an opportunity today to discuss the appropriate role of postal employees in that operational scheme. I am looking forward to a candid discussion today about the realistic answers we might expect and where we go from here. I am also interested in how we might best use the expertise and availability of postal em-



ployees to assist in the area of census-taking. It is certainly an outcome that many people in this body have been looking for for a long period of time.

Mr. PETRI.

Mr. PETRI. Thank you, Mr. Chairman. I would like to thank you for holding this important hearing on the 1995 Census Test and, also, I would like to thank all the witnesses for coming today. We are all anxious to see what the 1995 Test might prove or disprove. And coming from Wisconsin, I have a particularly keen interest in all of these issues. So I look forward to everyone's testimony.

Mr. SAWYER. Thank you. We just came from a hearing in which the kind of work that we have been talking about in this committee really plays itself in the real lives of real school children, and so you have an appreciative audience as we listen today.

Our first panel will consist of Dr. Norman Bradburn who is the Chair of the Panel to Evaluate Alternative Census Methods, Committee on National Statistics, National Academy of Sciences. Welcome. Good to have you here.

Let me say, as always, the full text of your testimony will be a part of the record and any way that you want to choose to focus and summarize will be appreciated.

#### **STATEMENT OF NORMAN BRADBURN, CHAIR, PANEL TO EVALUATE ALTERNATIVE CENSUS METHODS, COMMITTEE ON NATIONAL STATISTICS, NATIONAL ACADEMY OF SCIENCES**

Mr. BRADBURN. Thank you. I will just take a few minutes to outline what we think are some of the key findings and issues that we addressed in the panel.

Since you are familiar with the panel, I will skip the description of who we are and what we have been doing. A key panel finding concerns the validity of the use of sampling and estimation at census taking. We conclude that sampling and associated statistical estimation constitute an established scientific methodology that must play a greater role in future censuses in order to obtain a more accurate picture of the population than is provided by current methods.

Further, we conclude that the differential undercount cannot be reduced to acceptable levels at acceptable costs without the use of integrated coverage measurement and the statistical methods associated with it. We support the Census Bureau's stated goal of achieving a one-number census in 2000, and we endorse the use of integrated coverage measurement as an essential part of the census taking for the 2000 Census.

One proposed survey operation for integrated coverage measurement, that is what is called CensusPlus, involves highly trained interviewers with an objective of obtaining a complete enumeration of the population in a sample of census blocks. A CensusPlus operation is planned as part of the 1995 Test.

Because it is a fundamentally new approach to measuring census coverage and is an alternative to the post-enumeration survey that was conducted in 1990, the CensusPlus operation will require thorough testing and evaluation prior to its approval in the decennial census. Estimation methods that might be used will require further



study using simulations of 1990 census data and field data from the 1995 Test.

The follow-up of households that do not return the mail questionnaires is one of the most costly and labor-intensive operations in the traditional census. Sampling during nonresponse follow-up offers the potential for saving hundreds of millions of dollars but would also increase the variability of population estimates, especially for small geographic areas.

The Panel recommends that the Census Bureau test nonresponse follow-up sampling in the 1995 Test and collect data that allow for evaluation of the follow-up of all nonrespondents during a truncated period of time, combined with the use of sampling during a subsequent period for follow-up of the remaining nonrespondents, as well as testing the use of administrative records to improve estimates for the nonsampled housing units.

On the basis of the 1995 Test, the Census Bureau should make careful and thorough determination of data quality and cost implications of this promising approach to the long-standing problem that not everyone responds to the mailed questionnaire.

The second Panel finding is that the problems of cost and differential coverage can and should be addressed directly at the counting stage of census operations, using methods to improve response and coverage. New approaches to address list development can improve coverage of hard-to-locate housing units and sampling, and statistical estimation can be used for measurement and correction of differentials in census coverage.

Recently tested improvements in the census questionnaire format and in implementation procedures could also increase mail response rates, thereby saving money on the follow-up of nonrespondents. Ongoing research at the Bureau is focused on improving coverage within households by changing the census forms, for example, by using an extended roster for respondents in these forms. Early results suggest that changes in the rostering method could improve within household coverage for certain groups within the population. We strongly support continuation of this research.

Methods for improving response and coverage are not likely, however, to completely eliminate differences in coverage. Their use will contribute to two key goals: preserving the credibility of the census and addressing social changes that would otherwise tend to exacerbate the differential coverage problem. Also, efforts to improve response and coverage, and particularly to reduce differential coverage, during initial census operations will improve accuracy at intermediate stages and, therefore, reduce the burden on sampling and estimation in order to produce a one-number census.

In several previous testimonies, I have stressed the importance of the development of the address register, and this is something that I will just mention again that is important to all efforts to improve the census.

Another thing that we have in our previous testimony that I would like to again reiterate is the importance of administrative records as a source of data of potential use. Many of these data occur in statistical programs or administrative programs, and they can be used for statistical purposes, particularly if the linkage between them can be established.



We would recommend that the Bureau pursue a proactive policy to develop expanded use of administrative records in future censuses, surveys, and population estimate programs. Effective pursuit of such a policy will require establishment of a suitable organizational structure and adequate resources for research and development activities not tied directly to ongoing census and survey programs. It would also require that the Census Bureau work closely with program agencies in the development of new administrative records and modification of existing ones to improve their utility for statistical uses. We urge that the Congress and the Statistical Policy Office of OMB support such interagency cooperation.

Let me just also mention, in terms of methods to improve the count for hard-to-enumerate populations, the Bureau has developed a concept which is called the "tool kit," which refers to a collection of special methods—for example, team enumeration, blitz tactics, the use of local facilitators with community knowledge and ties, the use of bilingual enumerators and so forth for hard-to-enumerate areas.

The Panel supports the continued research and testing of methods for differential treatment of subpopulations with the goal of reducing the differentials in census outcomes across these subpopulations. We note, however, that application of the tool kit needs further specification, and the tools themselves need to be defined more completely. For example, some tools may be more appropriate for identifying and including housing units; others may be suited for motivating or reaching individuals.

The planning database being developed by the Census Bureau has an important role to play in guiding applications of the tool kit to ensure that tools are used systematically and only when needed and that their use is recorded so that, when relevant, this information can be taken into account in producing the final estimates for a one-number census.

Counting hard to enumerate populations may also be facilitated by means other than special enumeration methods. The panel endorses, for example, a change of the census reference date from April 1st to the first Saturday in March or at least an earlier date in March. Such a change could alleviate problems in counting mobile households, college students, and persons with no usual residence.

We do make some comments on the long form. There is a growing interest in developing capabilities to obtain information about small geographic areas and subpopulations more frequently than every 10 years, a discussion you have just come from. In addition, there is a perception within the Congress and among other interested parties that the additional content gathered by the decennial census long form places a severe burden on respondents and negatively affects census cost coverage and quality.

These issues, and in particular the accuracy of this perception of the long form, are being addressed more thoroughly by the other panel on census requirements. Nevertheless, we have reviewed two possible alternatives to the decennial long form, both currently being investigated by the Census Bureau, for collecting certain types of information beyond the simple population counts—that is, a large continuous monthly survey, the so-called continuous meas-



urement option, and the use of multiple sample forms in the decennial census including the application of matrix sampling.

The Panel supports continuing research and development of a continuous measurement program as a potential future source of sociodemographic data for small populations, recognizing that significant issues must be addressed before such a program can be seriously considered for adoption. In conducting this work, the Census Bureau should establish and continually reinforce a commitment to simultaneous research and development of cost estimation, data collection and processing methods, estimation procedures, and user needs.

Our position is that considered judgments about the merits and drawbacks of continuous measurement can be made only after extensive study to describe exactly how such a system would operate, what it could produce, and how much it would cost. We believe that the efforts by the Census Bureau to develop a prototype of continuous measurement provide a very promising start to this process.

Much of the interest and discussion surrounding continuous measurement has concerned its costs when fully implemented. As we stated in our interim report, this panel is not convinced that continuous measurement would provide a less costly alternative to the traditional long form. What continuous measurement would offer is greater frequency of small-area sample data and possibly improved data quality—with more timely data, and probably better quality, as a trade-off against cost.

Benefits for the decennial enumeration of population might result from the removal of the requirements to collect and tabulate sample data as part of the decennial census operation, but evidence of such benefits are not well documented.

Matrix sampling refers to a technique designed to spread or reduce respondent burden by dividing a survey instrument into multiple instruments with partially overlapping contents. On the basis of its examination, the Panel finds that conditions favorable to the use of matrix sampling are either unlikely to be obtained or have not been well studied in the context of the decennial census long form. The Panel, therefore, believes that matrix sampling is unlikely to present an effective alternative to the long-form data collection in 2000.

In conclusion, the Panel found much progress in census research and development since the 1990 Census, and this progress reflects new and creative thinking at the Census Bureau. A variety of the innovative design features we discussed will be examined in the 1995 Census Test. The collection of reliable information in the 1995 Test about the costs and the effectiveness of these design components will be essential for their proper evaluation.

Thank you for this opportunity to present our report, and I would be happy to answer questions.

[The prepared statement of Mr. Bradburn follows:]



PREPARED STATEMENT OF NORMAN BRADBURN, CHAIR, PANEL TO EVALUATE ALTERNATIVE CENSUS METHODS, COMMITTEE ON NATIONAL STATISTICS, NATIONAL ACADEMY OF SCIENCES

## INTRODUCTION

Good morning, Mr. Chairman and members of the Subcommittee. I am pleased to appear once again before the Subcommittee to discuss research and planning for the 2000 census. For the record, my name is Norman Bradburn. I am a professor of psychology and public policy at the University of Chicago and senior vice-president for research at the National Opinion Research Center. I serve as the chair of the Panel to Evaluate Alternative Census Methods (the "Methods Panel") of the National Research Council. The Research Council is the operating arm of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine, chartered by Congress to advise the government on matters of science and technology.

Our panel has been engaged in one of two complementary studies begun in 1992 by the National Research Council's Committee on National Statistics (CNSTAT) in response to the Decennial Census Improvement Act of 1991 and at the request of the U.S. Department of Commerce and the Bureau of the Census. One study, conducted by the Panel on Census Requirements in the Year 2000 and Beyond (the "Requirements Panel"), has considered what purposes a decennial census serves and whether alternative data collection systems can meet these objectives. The second study, conducted by the Methods Panel, has focused on *how* the census should be taken.

## CNSTAT METHODS PANEL -- CHARGE, COMPOSITION, AND PROCESS

The Methods Panel was charged with four basic tasks: (1) identify designs to be investigated for the 2000 census; (2) evaluate proposed research on alternative census designs; (3) evaluate the results of the research and the selection of census designs for further consideration, in particular for



the series of census tests that begin in 1995; and (4) recommend census designs to be explored for 2010 and succeeding years.

The panel has included members with expertise in statistics, survey methods and design, decennial census operations, field organization of large-scale data collection, demography, geography, marketing research, administrative records and record linkage, small-area statistics, and respondent behavior. A list of panel members is appended to my testimony.

The panel has conducted much of its work through four groups that were formed to consider different aspects of alternative census designs: (1) response and coverage issues, including alternative enumeration methods; (2) sampling and statistical estimation; (3) administrative records; and (4) alternatives for long-form data collection.

During the course of our 30-month study, the panel has met 7 times, and we have held eleven working group meetings. Our panel and working groups have received frequent briefings from Census Bureau staff and others on the 2000 census research and development program. We thank the Census Bureau staff for their gracious accessibility and cooperation in providing information and materials for deliberations of our panel and its working groups.

Our study has culminated in the September 21 publication of the panel's report, *Counting People in the Information Age*, which offers 41 recommendations regarding the 2000 census research and development program. The complete list of recommendations is appended to my testimony.

## **COUNTING PEOPLE IN THE INFORMATION AGE**

The panel's work has emphasized those aspects of census methodology that have the greatest potential effect on two primary objectives of census redesign: reducing differential undercount and controlling costs. In particular, we have focused on processes for the collection of data, the quality



of coverage and response that these processes engender, and the use of sampling (and subsequent estimation) in the collection process.

Our field of examination is not restricted to the 2000 census: a significant number of our findings and recommendations look beyond 2000 to future censuses, relate to other Census Bureau demographic programs (current population estimates and sample surveys), and discuss the collection of small-area data from administrative files. Redesigning the nation's census should not be carried out without due consideration of other components of the Census Bureau's demographic program and the larger federal statistical system.

Census data collection involves four key steps: (1) the construction of an address frame, (2) an initial process to obtain responses that can be linked to the address frame, (3) a follow-up process to obtain responses from those not covered in the initial process, and (4) a coverage measurement process that estimates the size of the population not covered through the initial and follow-up processes. In the 1990 and earlier censuses, the first three steps led to the official census estimates; whether or not to incorporate the results from the fourth step into the official census estimates became the "adjustment issue." For the 2000 census, the Census Bureau is proposing a fundamentally different approach, called a "one-number census," in which coverage measurement is an integral part of the census process that leads to the official estimates.

Designing a census in essence amounts to deciding which methods of identification, enumeration, response, and coverage improvement should be applied at each of the steps; whether sampling methods (and the corresponding estimation methods) should be used at any of the four steps; and, if sampling methods are used, which methods and at which steps.



## Sampling, Estimation, and the One-Number Census

A key panel finding concerns the validity of the use of sampling and estimation in census-taking. We conclude that sampling and associated statistical estimation constitute an established scientific methodology that must play a greater role in future censuses in order to obtain a more accurate picture of the population than is provided by current methods. Further, we conclude that differential undercount cannot be reduced to acceptable levels at acceptable costs without the use of integrated coverage measurement and the statistical methods associated with it. We support the Census Bureau's stated goal of achieving a one-number census in 2000, and we endorse the use of integrated coverage measurement as an essential part of census-taking in the 2000 census.

One proposed survey operation for integrated coverage measurement, CensusPlus, involves intensive enumeration methods and highly trained interviewers with the objective of obtaining a complete enumeration of the population in a sample of census blocks. A CensusPlus operation is planned as part of the 1995 census test. Because it is a fundamentally new approach to measuring census coverage (and an alternative to the Post-Enumeration Survey that was conducted in the 1990 census), the CensusPlus operation will require thorough testing and evaluation prior to approval of its use in a decennial census. Estimation methods that might be used in integrated coverage measurement will require further study using simulations of 1990 census data and field data from the 1995 census test.

The follow-up of households that do not return the mail questionnaire is one of the most costly and labor-intensive operations in the traditional census. Sampling during nonresponse follow-up offers the potential for saving hundreds of millions of dollars, but it also would increase the variability of population estimates, especially for small geographic areas. The panel recommends that the Census Bureau test nonresponse follow-up sampling in 1995 and collect data that allow evaluation



of (1) follow-up of all nonrespondents during a truncated period of time, combined with the use of sampling during a subsequent period of follow-up of the remaining nonrespondents, and (2) the use of administrative records to improve estimates for nonsampled housing units. On the basis of results of the 1995 census test, the Census Bureau should make a careful and thorough determination of the data quality and cost implications of this promising approach to the long-standing problem that not everyone responds to the mail questionnaire.

### **Response and Coverage Improvement**

A second major panel finding is that problems of cost and differential coverage can and should be addressed directly at the counting stage of census operations, using methods to improve response and coverage, as well as at other stages. (New approaches to address list development could improve coverage of hard-to-locate housing units, and sampling and statistical estimation can be used to measure and correct for differentials in census coverage.)

Recently tested improvements in census questionnaire format and implementation procedures could increase mail response rates, thereby saving money on the follow-up of nonrespondents. Making greater use of alternate technologies (e.g., telephones) and offering people multiple ways to respond (e.g., by distributing census questionnaires at public places) may yield additional cost savings. Ongoing research at the Census Bureau is focused on improving coverage within households by changing the census form (e.g., by using an extended roster). Early results suggest that changes in the rostering method could improve within-household coverage for certain groups within the population. The panel strongly supports the continuation of this research through and beyond the 1995 census test because of its potential for yielding a cost-effective means of improving the initial count and possibly reducing differentials in coverage.



Measures of gross census error will be important in evaluating the effectiveness of proposed methods for increasing census response. We believe that census methodology should strive to minimize not only omissions (that produce undercounts) but also erroneous enumerations (that produce overcounts). Aggressive research is needed to develop techniques to prevent erroneous or duplicate enumerations during a census with multiple response modes and new rostering procedures.

Methods for improving census response and coverage are not likely to completely eliminate differentials in coverage. However, their use will contribute to two key goals: preserving the credibility of the census and addressing social changes that would otherwise tend to exacerbate differential coverage problems. Also, efforts to improve response and coverage--and, in particular, to reduce differential coverage--during initial census operations will improve accuracy at intermediate stages and therefore reduce the burden on sampling and statistical estimation in producing results from the one-number census.

Conversely, response and coverage improvement methods that are too expensive to be implemented on a large scale during the counting stage might be valuable tools in the field operation for integrated coverage measurement. Thus, sampling and statistical estimation can reduce the burden on coverage improvement efforts and improve the cost-effectiveness of the counting operation.

### **Address List Development**

Virtually all fundamental design changes contemplated for the 2000 census depend on the existence of an accurate list of residential addresses. A geographic database that is fully integrated with a master address file is a basic requirement for the 2000 census, regardless of the final census design. The panel recommends that the Census Bureau continue aggressive development of the TIGER (topologically integrated geographic encoding and referencing) system, the master address file



(MAF), and integration of these two systems. MAF/TIGER updating activities for the 1995 census test sites should be completed in time to permit the use and evaluation of the MAF/TIGER system as part of the 1995 census test.

The duplication of effort, cost, and complexity involved both within the Census Bureau to compile address lists for consecutive censuses and across other federal agencies and state and local governments--including the U.S. Postal Service--suggests the value of creating and maintaining a master list of addresses over the decade. A continuously updated master address file could serve as a national utility for the federal statistical system. We believe that the Statistical Policy Office of the Office of Management and Budget should develop a structure to permit the sharing of address lists among federal agencies and state and local governments--including the Census Bureau and the Postal Service--for approved uses under appropriate conditions. We distinguish address information from information that identifies or characterizes individuals or households associated with addresses; in our view, the use of the latter type of information appropriately requires stronger provisions to ensure privacy and confidentiality.

### **Use of Administrative Records**

Administrative records are already an important source of data for many statistical programs, and they can play a much greater role in the future. They can be used to provide more frequent and timely small-area data at a relatively low cost, and existing files could prove especially useful if augmented with information about race and ethnicity. Legitimate statistical uses of administrative records within the federal statistical system should be facilitated, rather than hampered, by legislation and administrative rules. Legislation that requires or authorizes the creation of individual record systems for administrative purposes should explicitly allow for such uses, subject to strong protection



of the confidentiality of individual information.

The Census Bureau should pursue a proactive policy to develop expanded uses of administrative records in future censuses, surveys, and population estimate programs. Effective pursuit of such a policy will require establishment of a suitable organizational structure and adequate resources for research and development activities not tied directly to ongoing census and survey programs. It will also require that the Census Bureau work closely with program agencies in the development of new administrative record systems and modification of existing ones to improve their utility for statistical uses. The panel urges Congress and the Statistical Policy Office of the U.S. Office of Management and Budget to support such interagency cooperation.

Although the panel concurs with the judgment of the Census Bureau that an administrative records census--i.e., a census that relies exclusively or primarily on records from administrative data systems to produce population totals--is not a feasible option for the 2000 census, we believe the possibility should be carefully explored for the 2010 census. This program of research should begin immediately to permit, in conjunction with the 2000 census, a meaningful comparison of the administrative records census approach to the traditional approach under full census conditions. A program of sustained, zero-based research and development, with the cooperation of program agencies, is needed for a thorough evaluation of the administrative records census option, taking into account the current and potential content of administrative records, the coverage of the population, and the potential for achieving significant cost reductions in censuses.

### **Matching and Elimination of Duplicate Records**

Record linkage is the identification of records belonging to the same unit (i.e., a person, household, or housing unit) either within a single data set or across two different data sets. In



decennial census applications, records are matched either to eliminate duplication or to pool information from multiple sources.

Many census operations involve matching one list of records to another. Needs for record linkage arise when address lists and other administrative records are used, when people are given multiple opportunities to respond to the census, and when dual-system estimation is used as part of a coverage measurement program. Many of the innovative methods being examined in the 1995 census test would place greater demands on matching technology.

We therefore recommend that the Census Bureau continue its research program on record linkage and should test and evaluate existing record linkage technology in the 1995 census test. Limits on the ability to eliminate duplicate records may prove to be the controlling factor with regard to the feasibility of many of the innovations under consideration for the 2000 census design.

### **Methods for Hard-to-Enumerate Populations**

The legitimacy of the census depends in part on public perception that it fairly treats all geographical areas and demographic groups in the country. Fair treatment can be defined in either of two ways: by applying the same methods and effort to every area or by attaining the same population coverage in every area so that estimates of relative populations of different areas are accurate. The objective of the census is to measure population accurately--above all, to calculate accurate population shares in order to apportion representation properly. Therefore, obtaining equal coverage clearly takes priority over using the same methods in every area. In fact, since experience shows that treating every geographical area and demographic group in the same way leads to differential coverage, the Census Bureau has a positive duty to use methods designed to close the coverage gap.

The term *tool kit* refers to the collection of special methods--for example, team enumeration,



"blitz" tactics, use of local facilitators with community knowledge and ties, and use of bilingual enumerators--for hard-to-enumerate areas. The panel supports the continued research, development, and testing of methods for differential treatment of subpopulations with the goal of reducing the differentials in census outcomes across these subpopulations. We note, however, that application of the tool kit needs further specification, and the tools themselves need to be defined more completely. For example, some tools may be more appropriate for identifying and including housing units; other may be suited for motivating and reaching individuals. The planning database being developed by the Census Bureau has an important role to play in guiding application of the tool kit to ensure that tools are used systematically and only when needed and that their use is recorded so that, when relevant, this information can be taken into account in producing final estimates in a one-number census.

Although full experimental evaluation of components of the tool kit used in the 1995 census test is probably not possible because of constraints on operational complexity, it should still be possible to plan comparisons and variations across sites or areas within sites. Information about effectiveness and cost will be needed to inform decisions after 1995. The successful use of tool-kit methods in census operations will depend on knowing where they should be applied and on being able to apply them without creating erroneous enumerations.

Counting hard-to-enumerate populations may also be facilitated by means other than special enumeration methods. The panel endorses a recent legislative proposal to change the census reference date from April 1 to the first Saturday in March. Such a change could alleviate problems in counting mobile households, college students, and persons with no usual residence. A greater shift toward the middle of the month could further reduce end-of-month moving problems, although the ability to complete all phases of the census mail operation within the same calendar month is also an important consideration.

The ethnographic research sponsored by the Census Bureau in recent years has provided much



knowledge about the problems of enumerating inner-city and rural low-income populations, immigrants, internal migrants, and homeless people ("persons with no usual residence"). The panel supports further comparative study of hard-to-enumerate areas and the application of existing findings to the development of cost-effective methods for counting these populations.

Studies of hard-to-enumerate areas may also inform census outreach and promotion efforts. The panel believes that more effective outreach and promotion efforts will require a structured research and development program and greater centralization of responsibilities for decennial census outreach and promotion.

In addition, we encourage the Census Bureau to pursue a program of research to develop more acceptable racial and ethnic identification questions. Questions that ask respondents to claim a single race mask the real complexity of racial and ethnic identity and may create problems in the census. The effects of misclassification on differential undercount by race are not well-understood. In collecting data on race and ethnicity, the Census Bureau and other federal agencies are under pressure to satisfy conflicting objectives: resource flows to ethnic community organizations depend on the accurate classification and counting of their members, but the Voting Rights Act demands single-race reporting.

### **Use of the Telephone**

The telephone can and should play a much larger role in the 2000 census than it did in 1990 and in previous censuses. New technologies will allow expansion of the 800 number call-in assistance program and permit access to a wide range of automated services from any telephone in the United States. The panel supports the Census Bureau's plans to develop improved capabilities for handling incoming calls--particularly in view of the potential negative effects on public perception and response



of being ill-prepared to field questions. The 1995 census test and subsequent tests should be used to inform the design of the 800 number call-in system for the 2000 census. Particular attention should be given to the public's response to the menu-driven call routing system and the feasibility of administering interviews using voice recognition and voice recording.

The use of computer-assisted outbound calling will be possible in the 2000 census because of the availability of electronic directory services that can match telephone numbers to addresses. The Census Bureau will be able to add telephone numbers to the master address file for a significant number of address listings, and this resource can be used to make outbound telephone calls both to prompt mail nonrespondents to return their forms and to complete the enumeration by telephone. Computer-assisted telephone interviewing may also play a key role in the integrated coverage measurement program. The panel recommends that the Census Bureau expand the research program involving the acquisition of telephone numbers for MAF addresses by working with more companies that offer electronic directory services and developing an optimal protocol for matching addresses.

Findings in the survey research literature and in technology assessments conducted for the Census Bureau suggest that these telephone applications offer the potential for considerable cost savings and improved data quality. The panel encourages the Census Bureau to continue development of telephone-based methods for testing in 1995 and, if successful, for adoption as part of the 2000 census.

#### **Alternative Methods for Long-Form Data Collection**

There is growing interest in developing capabilities to obtain information about small geographic areas and subpopulations more frequently than every 10 years. In addition, there is a perception within Congress and among other interested parties that the additional content gathered by



the decennial census long form places a severe burden on respondents and negatively affects census cost, coverage, and quality.

These issues--and, in particular, the accuracy of this perception--are being addressed more thoroughly by the National Research Council's Panel on Census Requirements in the Year 2000 and Beyond. Nevertheless, we have reviewed two possible alternatives to the decennial long form, both currently being investigated by the Census Bureau, for collecting certain types of information beyond simple population counts: (1) a large, continuous, monthly survey (the so-called continuous measurement option) and (2) the use of multiple sample forms in the decennial census (including the application of matrix sampling).

The panel's consideration of these alternative methods has not been motivated by the concerns about cost and differential coverage that have been prominent in the movement for reform of the decennial census. Rather, the panel believes that the transfer of information-gathering responsibilities from the decennial long form to an alternative, such as a continuous measurement survey, should be based on judgments about the cost-effectiveness of these methods in meeting the current and future information needs of census data users.

The panel supports continued research and development of a continuous measurement program as a potential future source of sociodemographic data for small areas and small populations, recognizing that significant issues must be addressed before such a program can be seriously considered for adoption. In conducting this work, the Census Bureau should establish, and continually reinforce, a commitment to simultaneous research and development of cost estimation, data collection and processing methods, estimation procedures, and user needs. Our position is that considered judgments about the merits and drawbacks of continuous measurement can be made only after extensive study to describe exactly how such a system would operate, what it would produce, and how much it would cost. We believe that the efforts by the Census Bureau to develop a



prototype for continuous measurement provide a very promising start to this process.

Much of the interest and discussion surrounding continuous measurement to date has concerned its cost when fully implemented. As we stated in our interim report, this panel is not convinced that continuous measurement would provide a less costly alternative to the traditional long form. What continuous measurement would offer is greater frequency of small-area sample data and, possibly, improved data quality. Benefits for the decennial enumeration of the population might result from the removal of the requirements to collect and tabulate sample data as part of the decennial census operation, but the evidence for such benefits is not well documented.

The panel believes that the ongoing thorough review of census requirements, costs, and methods presents an opportunity to undertake a full evaluation of the viability and desirability of instituting a permanent continuous data collection program to obtain traditional census data on population and housing characteristics. Continuous measurement would represent a fundamental change in methodology, and it has implications that extend far beyond issues of coverage, cost, quality, and frequency. In particular, the relationship of a continuous measurement program to other federal government surveys and to state and local governments is a very important topic that lies beyond the scope of the panel's work. Careful evaluation and widespread consideration of its implications will be needed to clarify the merits of this proposal.

Matrix sampling refers to a technique designed to spread and reduce respondent burden by dividing a survey instrument into multiple instruments with partially overlapping contents. On the basis of its examination, the panel finds that the conditions favorable to use of matrix sampling are either unlikely to be obtained or have not been well studied in the context of the decennial census long form. The panel therefore believes that matrix sampling is unlikely to present an effective alternative to long-form data collection in 2000. We endorse the Census Bureau's plan to investigate the impact of form length and content on mail response rates in the 1995 census test. However, even



if the operational feasibility of multiple sample forms is confirmed in the 1995 census test, the Census Bureau should not introduce matrix sampling without undertaking further research. We believe that such research should be assigned low priority relative to other decennial census research projects.

#### **CENSUS BUREAU PLANS FOR THE 1995 TEST**

The panel found much progress in census research and development since the 1990 census, and this progress reflects new and creative thinking at the Census Bureau. A variety of innovative design features will be examined in the 1995 census test. Collection of reliable information in the 1995 census test about the costs and effectiveness of census design components will be essential for their proper evaluation.

A key design issue in achieving a well-balanced census in 2000 will be the allocation of resources between four major steps in census data collection: construction of the address frame, the initial counting operation, nonresponse follow-up, and integrated coverage measurement. The allocation decision will be a critical point in development of the 2000 census design, and information obtained from the 1995 census test should provide a stronger basis for that decision.

In closing, I thank you for the opportunity to discuss research and planning for the 2000 census. We hope that our findings and recommendations will contribute toward achieving a sound design for the 2000 census and building a productive, longer-term census research and development program. We express our deep gratitude for the encouragement and support of the Census Bureau and of Congress in the course of our study.



## Panel to Evaluate Alternative Census Methods

### Biographical Sketches of Panel Members

**Norman M. Bradburn** is the Tiffany and Margaret Blake distinguished service professor in the Department of Psychology and the Harris Graduate School of Public Policy Studies at the University of Chicago, as well as senior vice president for research at the National Opinion Research Center. He is an authority on nonsampling errors in surveys and has written extensively on questionnaire design. He has been active in the developing field of research applying cognitive psychological principles to the study of response errors in surveys. He received B.A. degrees from the University of Chicago and Oxford University and M.A. and Ph.D. degrees in clinical and social psychology from Harvard University.

**Robert M. Bell** is a senior statistician and head of the statistics group at the RAND Corporation. He has worked on a number of different projects, mainly in health and education. His areas of expertise include survey design, survey analysis, and general experimental design issues. He received a B.S. degree in mathematics from Harvey Mudd College, an M.S. degree in statistics from the University of Chicago, and a Ph.D. degree in statistics from Stanford University.

**Gordon J. Brackstone** is assistant chief statistician responsible for statistical methodology, computing, and geography at Statistics Canada. His professional work has been in survey methodology, particularly the assessment of the quality of census and survey data. He is a fellow of the American Statistical Association and an elected member of the International Statistical Institute. He received B.Sc. and M.Sc. degrees in statistics from the London School of Economics.

**Clifford C. Clogg** is a demographer and statistician at Pennsylvania State University. He is a former chairman of the Committee on Population Statistics of the Population Association of America and a member of the Census Advisory Committee; he was the coordinating and applications editor of the *Journal of the American Statistical Association*. His areas of specialization are categorical data analysis and social statistics. He received a B.A. degree from Ohio University, and an M.S. degree in statistics and M.A. and Ph.D. degrees in sociology from the University of Chicago.

**Thomas B. Jabine** is a statistical consultant who specializes in the areas of sampling, survey research methods, and statistical policy. He was formerly statistical policy expert for the Energy Information Administration, chief mathematical statistician for the Social Security Administration, and chief of the Statistical Research Division of the Bureau of the Census. He is a fellow of the American Statistical Association and a member of the International Statistical Institute. He has a B.S. degree in mathematics and an M.S. degree in economics and science from the Massachusetts Institute of Technology.

**Katherine S. Newman** is a professor of anthropology at Columbia University. She specializes in cultural analyses of work and mobility in the suburban middle class and in inner-city communities. She has written extensively on the topic of downward mobility and is currently engaged in a study of minority youth in low-wage, service-sector jobs in the Harlem section of New York and Oakland, California. She has a B.A. degree from the University of California, San Diego, and M.A. and Ph.D. degrees in anthropology from the University of California, Berkeley.



**D. Bruce Petrie** is assistant chief statistician of the Social, Institutions, and Labor Statistics Field at Statistics Canada. He is responsible for social statistics, which includes the census of population, demography, education, health, justice, labor, and household surveys, including Canada's equivalent of the Current Population Survey. He has a bachelor of commerce degree from Dalhousie University and an M.B.A. degree from the University of Western Ontario.

**Peter A. Rogerson** is professor and chair of geography at the State University of New York, Buffalo. His areas of specialization include internal migration, mathematical demography, and estimates and projections. He was formerly a research trainee at the Census Bureau in the Census Bureau/American Statistical Association program on economic-demographic modeling. He received a B.A. degree from the State University of New York, Albany, an M.A. degree from the University of Toronto, and a Ph.D. degree in geography from the State University of New York, Buffalo.

**Keith F. Rust** is an associate director at Westat, Inc., and formerly was with the Australian Bureau of Statistics. He is the director of sample design and statistical operations for the National Assessment of Educational Progress, as well as the sampling coordinator for the Third International Mathematics and Science Study. His work deals mainly with educational surveys; he has expertise in the areas of variance estimation and inference for complex samples. He is a member of the editorial board of the *Journal of Official Statistics* and the faculty of the University of Maryland-University of Michigan Joint Program in Survey Methodology. He received a B.A. degree from Flinders University of South Australia and M.S. and Ph.D. degrees in biostatistics from the University of Michigan.

**Nora Cate Schaeffer** is professor of sociology at the University of Wisconsin, Madison. Her areas of expertise include respondent behavior and interviewer-respondent interaction. Her past research has concentrated on a number of different areas in survey methodology dealing with nonsampling error, both nonresponse and response errors of various kinds. She is on the editorial board of *Public Opinion Quarterly*, *Sociological Methodology*, and *Sociological Methods Research*. She has an A.B. degree from Washington University and a Ph.D. degree in sociology from the University of Chicago.

**Edward A. Schillmoeller** is senior vice president of the A.C. Nielsen Company, where he directs all statistical operations and activities of the media research division. His work includes both continuous and ad hoc household surveys of television audiences. His interests are sample design and survey methods. He received a degree in mathematics from Iowa State University and an M.B.A. degree in statistics from the University of Chicago.

**Michael F. Weeks** is director of Survey Research Associates, Inc., a wholly owned subsidiary of Battelle Memorial Institute. His areas of expertise include survey methods and operations. In particular, he is interested in survey methods aimed at reducing nonsampling error and making survey operations more efficient and more cost-effective. He is on the editorial board of *Public Opinion Quarterly*. He received a B.A. degree from Davidson College and an M.A. degree from the Episcopal Theological Seminary of the Southwest.

**Alan M. Zaslavsky** is an associate professor of statistics at Harvard University. His research interests include methods for estimating and correcting census undercount, applications of hierarchical Bayes methods, microsimulation modeling, and missing data. He has an A.B. degree from Harvard College, an M.S. degree from Northeastern University, and a Ph.D. degree in applied mathematics from the Massachusetts Institute of Technology.



*COUNTING PEOPLE IN THE INFORMATION AGE*

## RECOMMENDATIONS

## CHAPTER 1

## INTRODUCTION

**Recommendation 1.1:** In assessing the design innovations included in the 1995 census test or other research and development, the Census Bureau should place great emphasis on cost-benefit analysis as part of the overall evaluation leading to implementation decisions for the 2000 census. Requirements for evaluating new data collection methodologies in the 1995 census test should include information on such characteristics as cost, yield, and gross error that are needed to inform cost-benefit judgments.

## CHAPTER 2

## PRELIMINARY CENSUS DESIGN ISSUES

**Recommendation 2.1:** The Census Bureau should continue aggressive development of the TIGER (topologically integrated geographic encoding and referencing) system, the master address file (MAF), and integration of these two systems. MAF/TIGER updating activities for the 1995 census test sites should be completed in time to permit the use and evaluation of the MAF/TIGER system as part of the 1995 census test.

**Recommendation 2.2:** The Census Bureau should continue its research program on record linkage in support of the 1995 census test and the 2000 census. Efforts should include studies of the effectiveness of different matching keys (e.g., name, address, date of birth, and Social Security number) and the establishment of requirements for such components as address standardization, parsing, and string comparators. Existing record linkage technology should be tested and evaluated in the 1995 census test.

**Recommendation 2.3:** In view of the operational advantages that are likely to result, the panel endorses the proposed change in census reference date from April 1 to the first Saturday in March. Furthermore, we recommend that changing the census reference date from early in the month to midmonth (e.g., the second Saturday in March) be reconsidered if subsequent modifications to the mailout operation would permit all census mailings to be executed within the same calendar month using a midmonth reference date.

**Recommendation 2.4:** The Statistical Policy Office of the Office of Management and Budget should develop a structure to permit the sharing of address lists among federal agencies and state and local governments—including the Census Bureau and the Postal Service—for approved uses under appropriate conditions.



## CHAPTER 3

## RESPONSE AND COVERAGE

**Recommendation 3.1:** A program of research extending beyond the 1995 census test should aim to reduce coverage errors within households by reducing response errors (e.g., by using an extended roster form). This research should also evaluate the impact of these new approaches on gross and net coverage errors, as well as assess the effects on coverage of obtaining enumerations using different instrument modalities (e.g., paper and computer-assisted) and different interview modes (e.g., paper instrument completed by household respondent and by enumerator).

**Recommendation 3.2:** The Census Bureau should use the 1995 census test and subsequent tests to inform the design of the 800 number call-in system for the 2000 census. The Census Bureau should focus on the public's response to the menu-driven call routing system, acceptance of the computer-administered interview, possible differential mode effects between a computer-administered interview and one administered by an interviewer, and the technical feasibility of administering interviews using voice recognition and voice recording. The Census Bureau should also develop and implement a monitoring system in these tests to collect operational and cost data on the call-in program.

**Recommendation 3.3:** The Census Bureau should expand the research program involving the acquisition of telephone numbers for MAF addresses by working with more companies that offer electronic directory services and developing an optimal protocol for matching addresses. If the Census Bureau is able to acquire unlisted telephone numbers for a 1995 census test site, it should carefully monitor the results obtained from calling households with unlisted numbers.

**Recommendation 3.4:** The Census Bureau should consider developing an extensive network of relations between field offices and local community resources, particularly in hard-to-enumerate areas, and should examine the cost-effectiveness of maintaining this infrastructure in continuous operation between censuses. The Census Bureau should develop and implement pilot programs in conjunction with the 1995 census test in order to gather information about the potential costs and benefits of a large-scale local outreach program.

**Recommendation 3.5:** The Census Bureau should conduct further comparative studies of hard-to-enumerate areas, focusing on those parts of the country where three phenomena coincide: a shortage of affordable housing, a high proportion of undocumented immigrants, and the presence of low-income neighborhoods.

**Recommendation 3.6:** In the 1995 census test, the Census Bureau should include a larger repertoire of foreign-language materials than those currently available in Spanish (both written and audio). In addition, the Census Bureau should conduct more aggressive hiring of community-based enumerators (with due consideration of local concerns about the confidentiality of census responses) and should accommodate greater flexibility in the timing of enumeration by personal visit (i.e., permitting contact during evenings and weekends).

**Recommendation 3.7:** We endorse the Census Bureau's plans to conduct, in the 1995 census test, enumeration at service providers (e.g., shelters and soup kitchens) as a method for counting persons



with no usual residence (and possibly migrant workers). The Census Bureau should consider conducting enumeration of streets and other public places on a sample basis at each of the test sites for the purpose of coverage assessment.

**Recommendation 3.8:** The Census Bureau should undertake a program of research in cognitive anthropology, sociology, and psychology that will contribute to the development of more acceptable racial and ethnic identification questions.

**Recommendation 3.9:** The Census Bureau should assign overall responsibility for decennial census outreach and promotion to a centralized, permanent office. The Census Bureau should consider expanding the mission of the extant Public Information Office to include this charge. Evaluation of outreach and promotion programs should be conducted by an independent unit within the Census Bureau.

**Recommendation 3.10:** The Census Bureau should evaluate the costs and benefits of alternatives to the use of the Advertising Council to conduct the 2000 census media campaign. Some alternative options are working directly with local and regional agencies, undertaking paid media research, and supplementing pro bono advertising with paid advertising in hard-to-enumerate localities.

**Recommendation 3.11:** The Census Bureau should evaluate the programs for state and local cooperation that will be overseen by census advisors in the 1995 census test areas in order to collect from these experimental initiatives those programs most likely to (a) reduce the cost of the decennial census (particularly by improving mail response rates) and (b) reduce the differential undercount. Preservation of the Census Awareness and Products Program should, however, be a high priority, not to be superseded by this new initiative for improving state and local cooperation.

## CHAPTER 4

### SAMPLING AND STATISTICAL ESTIMATION

**Recommendation 4.1:** Sampling for nonresponse follow-up could produce major cost savings in 2000. The Census Bureau should test nonresponse follow-up sampling in 1995 and collect data that allows evaluation of (1) follow-up of all nonrespondents during a truncated period of time, combined with the use of sampling during a subsequent period of follow-up of the remaining nonrespondents, and (2) the use of administrative records to improve estimates for nonsampled housing units.

**Recommendation 4.2:** Differential undercount cannot be reduced to acceptable levels at acceptable costs without the use of integrated coverage measurement and the statistical methods associated with it. We endorse the use of integrated coverage measurement as an essential part of census-taking in the 2000 census.

**Recommendation 4.3:** The Census Bureau should investigate during the 1995 census test whether the CensusPlus field operation can attain excellent coverage in CensusPlus blocks without contaminating the regular enumeration in those blocks. If substantial problems are identified, CensusPlus should not be selected as the field methodology for integrated coverage measurement in the 2000 census unless clearly effective corrective measures can be implemented within the research



and development schedule.

**Recommendation 4.4:** Whatever method for integrated coverage measurement is used in 2000, the Census Bureau should ensure that a sufficiently large sample is taken so that the single set of counts provides the accuracy needed by data users at pertinent levels of geography.

**Recommendation 4.5:** The Census Bureau should prepare alternative sample designs for integrated coverage measurement with varying levels of support for direct state estimation. The provision of direct state estimates should be evaluated in terms of the relative costs and the consequent loss of accuracy in population estimates for other geographic areas or subpopulations of interest.

**Recommendation 4.6:** The panel endorses the continued use of demographic analysis as an evaluation tool in the decennial census. However, the present state of development does not support a prominent role for demographic methods in the production of official population totals as part of integrated coverage measurement in the 2000 census. The Census Bureau should continue research to develop subnational demographic estimates, with particular attention to potential links between demographic analysis and further development of the continuous measurement prototype and the administrative records census option.

**Recommendation 4.7:** Before the census, the Census Bureau should produce detailed documentation of statistical methodology to be used for estimation and modeling. After the census, the Census Bureau should document how the methodology was applied empirically and should provide evaluation of the methodology.

**Recommendation 4.8:** The Census Bureau should develop methods for measuring and modeling all sources of error in the census and for showing uncertainty in published tabulations or otherwise enabling users to estimate uncertainty.

**Recommendation 4.9:** The Census Bureau should vigorously pursue research on statistical estimation now and throughout the decade. Topics should include nonresponse follow-up sampling, coverage estimation, incorporation of varied information sources (including administrative records), and indirect estimation for small areas.

## CHAPTER 5

### ADMINISTRATIVE RECORDS

**Recommendation 5.1:** Legislation that requires or authorizes the creation of individual record systems for administrative purposes should not create unnecessary barriers to legitimate statistical uses of the records, including important uses not directly related to the programs that the records were developed to serve. Preferably, such legislation should explicitly allow for such uses, subject to strong protection of the confidentiality of individual information. The panel urges Congress, in considering legislation relevant to health care reform, not to foreclose possible uses of health care enrollment records for the decennial censuses and other basic demographic statistical programs.

**Recommendation 5.2:** To facilitate statistical uses of new health record systems, the responsible



executive branch agencies should invite the Census Bureau and other federal statistical agencies to participate actively in the development of content and access provisions for these record systems.

**Recommendation 5.3:** The Office of Management and Budget should review identifiers, especially addresses, and demographic data items currently included in major administrative record systems with a view to promoting standardization and facilitation of statistical uses of information about individuals both in these record systems and in new ones that may be developed.

**Recommendation 5.4:** The Census Bureau, in cooperation with other agencies and organizations, should support a program of research on public views about statistical uses of administrative records in government. The research should focus on public reaction to very specific administrative record use scenarios, rather than on general questions of privacy.

**Recommendation 5.5:** Research on the production of population estimates from Internal Revenue Service and Social Security Administration records should continue as a joint initiative of these agencies with the Census Bureau and should focus on identifying measures that could serve to reduce coverage differentials and improve geographic precision.

**Recommendation 5.6:** The Census Bureau should continue its development of a cost model for an administrative record census and should use the model to maintain current cost estimates for several versions of this option as they are developed.

**Recommendation 5.7:** During the 2000 census the Census Bureau should test one or more designs for an administrative records census in selected areas. Planning for this testing should begin immediately.

**Recommendation 5.8:** The Census Bureau should plan its uses of administrative records in the 1995 census test and other tests leading up to the 2000 census and in the census itself in a manner that will also provide knowledge and experience of value for a possible administrative records census in 2010 or beyond and for uses of administrative records in demographic programs other than the census.

**Recommendation 5.9:** In maintaining and updating its Administrative Records Information System, the Census Bureau should give high priority to the acquisition of detailed information about record systems that are being developed to support health care reform at the state level. The Census Bureau should seek early opportunities to obtain and use health enrollment records in one or more states and should plan for experimental uses of these records as part of the 2000 census.

**Recommendation 5.10:** The Census Bureau should substantially increase the scope of its efforts to use administrative records to produce intercensal small-area tabulations, either through stand-alone tabulations of data from one or more administrative record sources or by combining such data with data from current surveys.

**Recommendation 5.11:** The panel urges the Census Bureau to adopt a proactive policy to expand its uses of administrative records, and it urges other executive branch agencies and Congress to give their support to such a policy.



## CHAPTER 6

## ALTERNATIVES FOR LONG-FORM DATA COLLECTION

**Recommendation 6.1:** The panel endorses further research and evaluation of a continuous measurement program. In conducting this work, the Census Bureau should establish, and continually reinforce, a commitment to simultaneous research and development of cost estimation, data collection and processing methods, estimation procedures, and user needs.

**Recommendation 6.2:** The Census Bureau should initiate discussions with all potential users of continuous measurement data, including state and local governments and private-sector users. A research program should be developed to answer user questions. The Census Bureau should also develop a program to inform data users of the simulated data products emerging from the test surveys and to get their reactions.

**Recommendation 6.3:** The Census Bureau should evaluate the gains in accuracy that may be offered by continuous measurement for estimates of various characteristics at varying levels of geography. In making accuracy assessments, the Census Bureau should take full advantage of simulations, based on existing census and survey data, to provide realistic scenarios for the changes in estimates over time. As part of its outreach program, the Census Bureau should provide long-form data users with accompanying estimates of bias and precision for various geographic levels and aggregations of one to five years of data.

**Recommendation 6.4:** The Census Bureau should work to improve cost estimates to determine more accurately the marginal cost of using a continuous measurement survey in place of the decennial census long-form questions. This work should include a program of research and test surveys to refine assumptions required to estimate costs.

**Recommendation 6.5:** The panel endorses the Census Bureau's plan to investigate the impact of form length and content on mail response rates in the 1995 census test. Even if the operational feasibility of multiple sample forms is confirmed in the 1995 census test, the Census Bureau should not introduce matrix sampling without undertaking further research. Such research should be assigned low priority relative to other decennial census research projects.



Mr. SAWYER. Let me first of all say thank you to you and to your colleagues on the Panel for three years of continuous and intermittent effort to bring this report to us.

I have not read the entire report. I have looked at the table of contents and read the executive summary, and I will review the entire report.

I assume, though, that looking at the length and the number of pages devoted to continuous measure and matrix sampling, it is a substantial treatment of both of those questions.

Mr. BRADBURN. Yes, it is a little bit more. Since continuous measurement is a bit more in the forefront right now, I think there is a little bit more on that. We also think that is more promising than matrix sampling.

Mr. SAWYER. Let me just ask you the baseline question. Is it your sense that the Bureau is on track to conduct and evaluate the 1995 Test on time?

Mr. BRADBURN. As far as we see, if everything continues the way it is going, we should get the test under way on time, and there is sufficient time and plans in the analysis to be able to do that.

Mr. SAWYER. And to integrate the findings with the work that follows immediately in 1996?

Mr. BRADBURN. That has to be done in this case. It will be tight and, as you mentioned, there are lots of things to be done. But I think it can be done. And many of these things are sort of—I mean, not everything has to be done exactly at the same time. There are a number of things that can be going on even while the test is being conducted.

There are other aspects of the evaluation of methods for estimation and so forth, which really depend not so much in the first instance on the 1995 Test, but on simulations using 1990 data and developing different estimation models which can be tested without the 1995 data. So it is not as if everything comes to a point where you wait until the 1995 data are in.

There are lots of things that are ongoing and, of course, they have done an enormous amount in the last three years. We have been very pleased with that. What the 1995 Test does is really bring a lot of these elements together into this one field test to see how—first of all, how they all come together and the operational feasibility of doing this because a lot of them—to bring off in a way that in a massive operation like a census is a tricky affair—so a lot of this has to be carried out that way.

But I think that in terms of what can be accomplished both in the time and with the resources available, they are picking the right ones to be testing out. And of course the principal one that is an experiment is the two methods of conducting the nonresponse follow-up, the sampling using a block sample or a distributed sample, and that is an extremely important one.

Mr. SAWYER. You raise two very specific questions about completeness of second roster and contamination of the census with regard to CensusPlus.

Mr. BRADBURN. Yes.

Mr. SAWYER. Are you—

Mr. BRADBURN. That is the coverage improvement.

Mr. SAWYER. Will we be able to evaluate your concerns?



Mr. BRADBURN. Yes. We had some concerns early on in some of the preliminary designs and, through discussions, that has now been modified so that our major worry about being able to evaluate it has now been put to rest because it will be—the problem was, originally, they wanted to start that on a flow basis, and the difficulty was when it might interfere with giving the test a full chance to——

Mr. SAWYER. To play itself out?

Mr. BRADBURN. Yes. But now the coverage improvement re-interviews and so forth will take place after the end of the sampling group.

Mr. SAWYER. Is there any area of the test you see as weak at this point?

Mr. BRADBURN. Not in the sense—I mean, it can't do everything. But we don't—we feel quite comfortable with the major components of it. I think, as I mentioned about the tool kit, we would like to see a bit—some of those ideas refined a bit more in time for the 1995 Census, and some of them can be.

The major issue there—and I think the Bureau is quite aware of it—is that you want to apply these in a systematic way, not just leaving it up to the particular area office. If one had much more time, you could build in a lot of complicated experiments.

But as we have talked it through among the panel members, it became apparent that this was just unrealistic in an actual field experiment like this to do a lot of things that ideally we would like to do in the laboratory.

Mr. SAWYER. Speaking of those kinds of things that you might ideally like to do, the one concern that always arises in every practical context is the problem of smaller geographic areas and sampling error. Are there arenas that are being missed?

Mr. BRADBURN. On the sampling and the small areas—no, I think the major one there, which is being addressed, is the different methods that one would use, such as the complete block enumeration. The choice is taking a sample of blocks, using blocks as a sampling frame, or taking a sample of households distributed across all blocks, and I think the experiment is designed well and we will get the right kind of data out of it.

This will be a real important decision because it is one of these sort of situations in which there are trade-offs. The two methods, each will have its own advantages and have its own disadvantages. Then coming to the conclusion about which one on balance is the best one to use is going to be a trade-off of sort of imponderables in a way, because there are so many different factions—there are cost considerations, efficiency considerations, there are size and also perceptual differences.

And one of the hardest things, in the end I think, to evaluate the use of sampling will be what is the effect on public perception of sampling methods, because we can show that, statistically, this is the most efficient way or this is the most cost-effective way or it has better quality and so on and so forth. But in the end, a big element will be people's perception of the fairness, so to speak, of the sampling.

But just to give you an example with——



Mr. SAWYER. With the prestige with the National Academy of Sciences, how could we ever call any of this into question?

Mr. BRADBURN. I am not sure that we will be in a position to say this is the better one than that one. We can tell you what the advantages and disadvantages of this one are. But just to give one example on the perception side, one which is kind of an imponderable, it is that in block sampling, every house—take a sampled block, so every house in that block would be enumerated so everybody's neighbors would know that the enumerator has there.

If you do the distributed form of sampling, your neighbor won't be sampled necessarily, so you might sort of—it depends how much communication there is among neighbors. Well, you know people came back to me and they "followed up" me and they didn't "follow up" you. So those are the kinds of things that elude sampling theory and elude many of the sampling criteria that one would like to use. Yet we keep the idea in the back of all of our minds, even when we are convinced it would help in terms of bias reduction and so forth.

Sampling information is very important. The great unknown is how the public would probably perceive that and whether they will understand that that method does indeed produce something better than an apparent attempt to throw enormous resources to keep trying to get everybody.

Mr. SAWYER. Mr. Petri.

Mr. PETRI. Thank you for your testimony, Doctor.

Your panel alludes to small area data, about the continuous measurement methodology. And I have had that concern expressed to me by a number of different stakeholders in the Census. If I could, Mr. Chairman, I would like to introduce letters I have received from some small area data user into the record today.

Mr. SAWYER. Without objection.

[The information referred to follows:]





# Metropolitan Council

Advocating regional economic, societal and environmental issues and solutions

September 29, 1994

The Honorable Thomas E. Petri  
U.S. House of Representatives  
2245 Rayburn House Office Building  
Washington, D.C. 20515-4906

Dear Congressman Petri:

I am writing to you as the ranking minority voice on the House Subcommittee on Census, Statistics and Postal Personnel to express my concern about some of the proposals that are being considered for the 2000 Census of Population and Housing. It is my hope that you will use the power of your position to urge those planning the 2000 Census toward the continuation of activities that are unique to the decennial census: that is, the provision of detailed demographic and economic information for small geographic areas.

I understand that the Census Bureau proposes to maintain data for only states and large cities. By "small-area" data I refer not only to cities and townships with small populations, but also to subdivisions of larger cities, such as census tracts and block groups. In the Twin Cities area half of our cities and townships have populations of less than 2,500 and may, therefore, be excluded from municipal-level data. A census that fails to provide demographic, social and economic information for these small areas leaves municipal officials without the information required to effectively and efficiently plan for the community's future, to allocate their revenues to subgroups whose needs have been targeted, and to balance limited community resources. Without the detail of high quality census data which these small municipalities have had access to from the last three decennial censuses, they will have lost the ability to understand, with the precision only a census provides, who they are as a community, how they compare to their neighboring communities, and what direction is appropriate for the future.

As Research Director of the Metropolitan Council of the Minneapolis-St. Paul area, I am aware that my staff depends heavily on decennial census data to help make informed policy decisions. We also serve as the primary source of census data for this region and respond to thousands of requests for census information annually. Consumers of this data include local officials, nonprofit agencies, large corporations, small businesses, developers, members of the media, utilities, academics and others. Communities and neighborhood organizations are increasingly required to demonstrate need when applying for federal funding or program assistance, such as in recent empowerment programs. It is decennial census data, at the census tract or block group level, that provides large cities with the information used for these requests.

Please use your influence with the Census Bureau to prevent the elimination of valuable small-area data.

Sincerely,

Susan J. Baxter  
Research Director





## **MONTGOMERY COUNTY PLANNING COMMISSION**

courthouse • norristown, pennsylvania 19404 • (215) 278-3722 • FAX (215) 278-3941  
office location: suite 201 • one montgomery plaza • swede and airy streets • norristown

October 4, 1994

The Honorable Thomas E. Petri  
House Subcommittee on Census,  
Statistics and Postal Personnel  
2262 Rayburn House Office Building  
Washington D C., 20515-4906

Dear Representative Petri:

We are writing in response to congressional hearings recently held where discussions arose on the possibility of substantially reducing the amount of data provided for small areas in the Census 2000. We submit these comments with the hope that they may become part of the public record. We serve as a county level planning agency and state data center affiliate for a county of 678,000 residents. Our county is further divided into 62 separate municipalities, each of which has its own governing body.

As a planning agency we use small area data in a variety of ways: to assist our municipalities in planning for their current and future needs, to assist staff, to assist other county agencies, and to social service agencies. Below are just a few examples of how this data is used:

- ◆ We use housing type data to analyze whether a municipality has an imbalance in the proportion of housing and therefore may need to rezone vacant areas to provide for its fair share of all housing types.
- ◆ We also use housing type data to plan for future infrastructure needs, particularly future sewer and water capacity.
- ◆ We use housing characteristics data on tenure, vacancy and substandard units to target areas in need of rehabilitation and more vigilant code enforcement.
- ◆ Journey-to-work data at the place level is absolutely essential for our transportation planning. We use this data to analyze commuting patterns for congestion management, and to assess the potential for future mass transit service.
- ◆ We have provided data on the age of housing stock to both the State and our County Health Department where it is currently being used in conjunction with income data to target funds for a HUD-funded lead-based paint removal program.
- ◆ We have provided educational attainment data to a local literacy agency.



Representative Thomas Petri

-2-

October 4, 1994

- ♦ Income data at the census tract level is used by our County Department of Housing Services to determine eligible areas for CDBG funding.

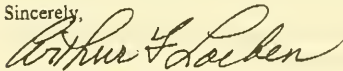
These are just a few of the ways in which we use small area data within our office or for other county departments. In addition, as a state data center affiliate we provide a wide variety of small area data to members of the public. Last year we responded to well over 800 requests for information. More than one-half of the requests came from various businesses who most frequently use the data to determine a location where they may successfully open or expand their business. The remaining half of requests came from a variety of other groups. These users include students collecting data for school projects, school districts planning for future capital needs, the press, who convey this data to local areas, and non-profit and philanthropic agencies who use detailed characteristics to determine service areas and program development.

In short, small area data is essential for the work we do. And because our county is so diverse we need data for geographic areas smaller than the county. Most important is our need for accurate and consistent data at the municipal (minor civil division) and census tract level. We realize that cuts will need to be made somewhere. And in truth, we do not use block or block group data beyond a few general characteristics. Nor do we use the various racial iterations of items that are provided on STF 2 and STF 4 files. Moreover, we have found that most of the requests for zip code information have come from private businesses, who are more able to pay for the information and write the costs off as a business expense.

We understand that the issue of scaling back the number of questions asked is also being considered. We do not advocate scaling back the questionnaire. However, if this is inevitable, we strongly urge that such decisions be carefully made and only after examining which data is required or used for federal programs and after requiring state data centers and their affiliates to keep logs of the STF tables they use.

The effectiveness of our planning efforts depends in good measure on the accuracy and availability of the census data we use. We hope you will consider our need for small area data in your deliberations. Thank you.

Sincerely,



Arthur F. Loeben  
Director

- c. Arlen Specter, Senator, United States Congress
- Harris Wolford, Senator, United States Congress
- Timothy Holden, United States Representative
- Curt Weldon, United States Representative
- James C. Greenwood, United States Representative
- Marjorie M. Mezvinsky, United States Representative
- Paul McHale, United States Representative



## SYRACUSE - ONONDAGA COUNTY PLANNING AGENCY

NICHOLAS J. PIRRO  
COUNTY EXECUTIVE

ROY A. BERNARDI  
MAYOR

September 23, 1994

Representative Petri  
2262 Rayburn Building  
Washington, DC 20515-4906

Dear Representative Petri:

I am writing concerning the upcoming Congressional hearings on September 27 which will deal with the year 2000 Census proposal for continuous measurement and this proposal's possible impact on small area statistics. As a planner in a city/county planning agency and as an affiliate participant in the New York State Data Center, I am concerned about any proposal which could impact the availability of small area data.

Small area data are used by numerous government agencies to plan for elderly services, transportation system improvements, housing needs, education facilities needs, economic development, and social services delivery. In addition, numerous local businesses use the data for market research and in planning expansion of facilities. Private groups use the data to plan church locations, to determine fund-raising strategies, and to assess membership characteristics. Small area data are used to create and test population and housing projections, and these projections are the basis for numerous planning and infrastructure decisions affecting the future development of our local communities.

I certainly support the use of continuous measurement as a supplement, but not a replacement, for small area data. Frankly, if I had to choose between the two, I would prefer the decennial small area data, although I think both are necessary for a basic understanding of our country's changing demographic characteristics. I realize that data collection can be difficult to defend to those who do not understand the economic and social value to such materials. However, as a planner, I know that making decisions without a sound demographic basis is going to cost our country and local communities much more in lost efficiency and poor decision-making than the relatively small cost of accurate small data collection.

Any assistance you can render in preserving small area statistical collection by the Census would be greatly appreciated.

Sincerely yours,

*Douglas Morris*

Douglas Morris  
Planner



Illinois Department of  
**Public  
 Health**

John R. Lumphin, M.D., M.P.H., Director

525-535 West Jefferson Street • Springfield, Illinois 62761-0001

September 22, 1994

Rep. Petri  
 2262 Rayburn Bldg.  
 Washington, D.C. 20515-4906

Dear Representative Petri:

We are writing to you as a member of the Census Statistics and Postal Personnel Subcommittee in regards to the special needs for small area census data. We especially are concerned about the year 2000 census design alternatives, such as "continuous measurement," which would seriously compromise the quality and quantity of small area data compared to those available in recent past censuses. We work in the Illinois Department of Public (IDPH) within the Illinois Center for Health Statistics which includes the Federal-State Cooperative for Population Estimates (FSCPE) program, a joint effort with the U.S. Bureau of the Census. We use decennial census data virtually on a daily basis for vital statistics and planning purposes. Many other small area data users, including other state agencies and the general public, contact us for decennial census products and data.

Within IDPH for example, decennial census data at the block and tract levels are used for health assessment studies related to the clean-up of toxic waste "Super Fund" sites on the National Priority List. There are more than 40 such sites in Illinois. Census data are used to determine the demographic and housing characteristics within the vicinities of these sites. Oftentimes, census geographic units such as blocks are used in piecing together demographic characteristics, such as the numbers of the very young and the very old or others who are most likely adversely affected by environmental toxins, within concentric circles or polygons around a site. This particular example of small area census data is illustrative of where a state government uses federally-provided data in locally administering a federally-mandated program.

Other examples include the Lead Program which uses housing characteristics at the block or tract levels to determine clusters of housing units built before 1975 when lead-based paints were used extensively within many residential homes. Oftentimes, the housing characteristics are matched with the presence of children who might ingest or otherwise come into contact with lead-based paints. A further example is block level data used to determine demographic characteristics for cancer site studies. Epidemiologic data are combined with census data to determine if certain types of cancer (or other diseases) are occurring at statistically significant levels or are occurring by chance. The census data, for example, could be used in calculating rates or for identifying clusters of disease-susceptible persons. One final example within IDPH is the definition and use of Health Professional Shortage Areas (HPSAs) as designated by the U.S. Department of Health and Human Services. Many HPSAs in Illinois are defined by tract level census geography. IDPH utilizes tract level demographic characteristics, especially race and

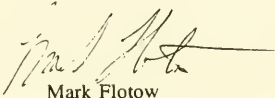


poverty level, in addressing the specific needs within each HPSA. Again, this is an example of using federally-provided data for a federal program that is monitored locally.

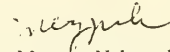
At IDPH, probably the single largest use of tract level data is for studying characteristics of Chicago Community Areas (CAs). CAs are aggregates of census tracts which divide Chicago geographically into 77 distinct units. IDPH, Chicago city government, local planners, etc. all make extensive use of census data aggregated to the CA level. In fact after nearly every decennial census since 1930, a Local Community (CAs) Fact Book is put together by a consortium and published through either the University of Chicago or the University of Illinois. This compendium of census data at the CA level is used extensively for a myriad of purposes. The CAs conveniently divide Chicago into local units for health studies, vital statistics, planning of all types, and so forth.

A census redesign for the year 2000 which threatens the quality (and the quantity) of census small area data for uses such as what we described above, threatens our ability to make responsible plans and decisions regarding public health, as well as for other disciplines. We would ask you to please support a year 2000 census which will collect and tabulate small area data so local governments and planners can continue to make responsible and informed planning decisions.

Sincerely,



Mark Flotow  
State Demographer



Merwyn Nelson, Ph.D., Chief  
Illinois Center for Health Statistics





# PLANNING

September 20, 1994

The Honorable Representative Petri  
2262 Rayburn Building  
Washington, D.C. 20515-4906

Dear Sir:

As stakeholders in the 2000 Census planning process, we have a concern which we believe requires immediate attention. We believe plans to replace sample data from the decennial census with data from a "continuous measurement" survey could threaten the uniquely available small area data from the decennial census.

We are making our concerns known to you because we believe the U.S. House, and especially the Census Statistics and Postal Personnel Subcommittee, should protect the rights of states and other Census Bureau clients in its deliberations. Please allow us to explain briefly the impact and consequences of the issue stated above.

We recognize the need for change in the decennial census process, especially considering the concerns of the 1990 differential undercount and the cost of conducting the census. However, some data needs must be met for states and local governments that appropriate funds based on small area social and economic data collected by the decennial census. An attached sheet includes references to several examples of directly affected state programs. There are also several federal disbursements to local communities, e.g., the Community Development Block Grant, that will be affected. In addition, the livelihood of small businesses and service delivery for nonprofit organizations depends equally on these same data.

As you are well aware, the decennial census has historically provided far more than a population count for House apportionment and state and local redistricting. Income and poverty data for small communities and neighborhoods, based on tract and block group level collection and tabulation, allow government programs to efficiently target needy areas. In most cases, these are the only available data to make these determinations. Available survey data cannot provide reliable information at the necessarily small geographic area level. It is certainly prudent to examine alternatives, such as "continuous measurement," "matrix sampling," and the use of administration records. However, even if any of these options should prove of practical use, it is still essential to have the comparative "base-line" data available only from small area data collected in a decennial census.

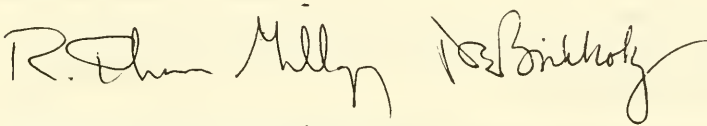


Page 2

As far away as the year 2000 seems today, the immediacy of the issues at hand cannot be overstated. Planning for true change needs to be done now. Especially, those designs must include some way to protect the data that has been provided in the past by the decennial census. If these concerns are overlooked, government at all levels will be at a loss for making fair and equitable decisions in the distribution of program dollars. In addition, the economic viability of small business, providing much of the impetus to economic development today, will be seriously in jeopardy due to the lack of available data for making intelligent business location and planning decisions.

We respectfully request your attention to this matter. Your involvement is deeply needed and sincerely requested. If you have further questions, we would be glad to respond directly to any inquiries from yourself or your staff. Thank you.

Sincerely,

The block contains two handwritten signatures. The signature on the left is 'R. Thomas Gillaspie' and the signature on the right is 'David E. Birkholz'. Both are written in dark ink.

R. Thomas Gillaspie, State Demographer  
David E. Birkholz, State Data Center Coordinator

ATTCH



## ADDENDUM

The following are a sampling of references in *Minnesota Statutes, 1992* where state programs rely for the distribution of funds on income, poverty and housing data collected for small geographic areas by the decennial censuses of the U.S. Census Bureau.

### 144.076 Mobile health clinic.

The state commissioner of health may establish, equip, and staff . . . a mobile unit, or units to travel in and around poverty stricken areas and Indian reservations of the state . . .

### 145A.15 Home visiting program.

Subdivision 1. Establishment. The commissioner of health shall establish a grant program designed to prevent child abuse and neglect by providing early intervention services for families at risk of child abuse and neglect . . .

Subd. 2. . . Families considered to be at-risk for child abuse and neglect include, but are not limited to, families with . . .

. . . stress caused by discrimination, mental illness, a high incidence of crime or poverty in the neighborhood, unemployment . . .

### 268.52 Financial assistance for community action agencies.

Subdivision 1. Authorization. The commissioner of jobs and training may provide financial assistance for community action agencies, Indian reservations and the statewide migrant seasonal farmworker organization . . .

(b) The available annual money will provide base funding to all community action agencies and the Indian reservations. Base funding amounts per agency are as follows: for agencies with low income populations up to 3,999, \$25,000; 4,000 to 23,999, \$50,000; and 24,000 or more, \$100,000.

(c) All remaining money of the annual money available after the base funding has been determined must be allocated to each agency and reservation in proportion to the size of the poverty level population in the agency's service area compared to the size of the poverty level population in the state.

### 268.53 Community action agencies.

Subd. 5. Functions; powers. A community action agency shall . . .



## Addendum - Page 2

(e) . . . have a measurable impact on reducing poverty among residents of areas of concentrated poverty, and providing methods by which residents of those areas can work with private groups, firms, and institutions in seeking solutions to problems of common concern.

**268.54 Community action programs.**

Subd. 2. Components. The components of a community action program shall be designed to assist participants, including the elderly poor to achieve increased self-sufficiency and greater participation in the affairs of the community by providing services and programs not sufficiently provided in the community by any governmental unit, any public institution, or any other publicly funded agency or corporation.

**466A.02 Designation of targeted neighborhoods.** (Community Resources Program)

Subd. 2. Eligibility requirements for targeted neighborhoods. An area within a city is eligible for designation as a targeted neighborhood if . . .

(1) the area had an unemployment rate that was twice the unemployment rate for the Minneapolis and St. Paul standard metropolitan statistical area as determined by the 1980 federal census;

(2) the median household income in the area was no more than half the median household income for the Minneapolis and St. Paul standard metropolitan statistical area as determined by the 1980 federal census;

or

(3) the area is characterized by residential dwelling units in need of substantial rehabilitation. An area qualifies under this clause if 25 percent or more of the residential dwelling units are in substandard condition as determined by the city or 70 percent or more of the residential dwelling units were built before 1940 as determined by the 1980 federal census.

**469.168 Eligibility requirements.**

(a) The proposed zone is located within an economic hardship area, as established by meeting two or more of the following criteria:

(1) the percentage of residential housing units within the area which are substandard is 15 percent or greater under criteria prescribed by the commissioner using data collected by the bureau of the census or data submitted by the municipality and approved by the commissioner;

(2) the percentage of households within the area that fall below the poverty level, as determined by the United States Census Bureau, is 20 percent or greater;

(4) for the last full year for which data is available, the per capita income in the area was 90 percent or less of the per capita income for the state, excluding standard metropolitan statistical areas, or for the standard metropolitan statistical area if the area is located in a standard metropolitan statistical area;



- (5)(i) the current rate of unemployment in the area is at least 120 percent of the statewide average unemployment for the last 12-month period for which verifiable figures are available, or  
 (ii) the total number of employment positions has declined by at least ten percent during the last 18 months.

#### **469.169 Selection of enterprise zones.**

Subd. 3. . . . an area is eligible under section 469.168, subdivision 4, paragraph (a) . . .

#### **469.202 Designation of targeted neighborhoods.**

Subd. 2. Eligibility requirements for targeted neighborhoods. An area within a city is eligible for designation as a targeted neighborhood if the area meets two of the following three criteria:

(a) The area had an unemployment rate that was twice the unemployment rate for the Minneapolis and Saint Paul standard metropolitan statistical area as determined by the 1980 federal decennial census.

(b) The median household income in the area was no more than half the median household income for the Minneapolis and Saint Paul standard metropolitan statistical area as determined by the 1980 federal decennial census.

(c) The area is characterized by residential dwelling units in need of substantial rehabilitation. An area qualifies under this paragraph if 25 percent or more of the residential dwelling units are in substandard condition as determined by the city, or if 70 percent or more of the residential dwelling units in the area were built before 1940 as determined by the 1980 federal decennial census.

#### **480.242 Distribution of civil legal services funds to qualified legal services programs.** (Minnesota Supreme Court)

(a) Eighty-five percent of the funds distributed shall be distributed to qualified legal services programs that have demonstrated an ability as of July 1, 1982, to provide legal services to persons unable to afford private counsel with funds provided by the federal Legal Services Corporation. The allocation of funds among the programs selected shall be based upon the number of persons with incomes below the poverty level established by the United States Census Bureau who reside in the geographical area served by each program, as determined by the supreme court on the basis of the most recent national census . . .

*Note: This review does not include federal programs and disbursements that require small area decennial census data to determine eligibility and equitable distribution of funds.*



NEW YORK STATE  
**DEPARTMENT OF SOCIAL SERVICES**  
 40 NORTH PEARL STREET, ALBANY, NEW YORK 12243-0001

MICHAEL J. DOWLING  
*Commissioner*

Office of  
 Policy Management



DIANE L. BAILLARGEON  
*Deputy Commissioner  
 Policy Management*

September 23, 1994

Representative Petri  
 2262 Rayburn Building  
 Washington, DC 20515-4906

Dear Representative Petri:

I am writing regarding the Congressional hearings on the year 2000 Census proposal for continuous measurement and its impact on small area statistics. As the demographer in the New York State Department of Social Services, I provide the various divisions of the Department with census information.

The Decennial Census is the only source of socio-economic information for small areas and, in New York State, the primary source of population data used in the construction of rates for small areas. This information is fundamental for many planning and monitoring activities within the Department. Many new initiatives are community-based and many pilot projects are sited in only a few communities. The need for community-based programs and the selection, siting and budgeting of specific projects all depend on the availability of detailed socio-economic and demographic data for census tracts. For example,

- the systematic identification of neighborhoods across New York State in which poverty rates exceeded 40 percent documented the need for the expansion of a community development program;
- zip code-based adolescent pregnancy rates (computed using the number of adolescent females aged 15 through 19) were used to identify new sites for an adolescent pregnancy prevention program;
- the total numbers of males and females aged 10 through 20 in census tracts with high adolescent pregnancy rates were used to estimate the budget for a new adolescent pregnancy initiative; and

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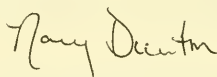


- the need for child care in a community, as measured by mothers' labor force participation, is being used in conjunction with information on the supply of child care to assess the need for the development of new child care programs.

The proposal for continuous measurement is laudable; more timely socio-economic data are important. However, a continuous measurement system should be an addition to our present data infrastructure. A continuous measurement program should not be adopted at the expense of small area data. The allocation of many federal, state, and local resources to county and sub-county areas depend on those data.

I urge you and your colleagues not to lose sight of the nation's need for a comprehensive small area statistical system. The Census is the framework upon which this system is established and maintained.

Sincerely,

A handwritten signature in dark ink, reading "Nancy Dunton". The signature is fluid and cursive, with the first name "Nancy" written in a larger, more prominent script than the last name "Dunton".

Nancy Dunton, Ph.D.

Research Scientist IV-Demographer



# GANNON

U N I V E R S I T Y

University Square • Erie, Pennsylvania • 16541-0001 • 814/871-7714

Thomas E. Petri  
Wisconsin Sixth District  
2262 Rayburn House Office Building  
Washington, DC 20515-4906

September 27, 1994

Dear Mr. Petri:

It has come to my attention that Congressional hearings are being held to determine the loss of small area census data. On behalf of the Gannon University Small Business Development Center, I would like to express our sincere concern on this matter.

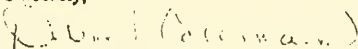
The Gannon University Small Business Development Center's PA service region includes Crawford, Erie, Mercer, and Warren counties. We assist clients who are planning new start-up business as well as those purchasing existing businesses. Small area census data plays a major role in assisting the clients with marketing research data that will help determine the competitors and demographic information regarding the prospective business.

For example, an individual would like to open a pizza shop in a specific location. The small area census data can help this individual determine a good location and whether the business has the potential to succeed. This is done by reviewing the number of other food establishments in the area, the income level, the age bracket of potential customers and other relevant demographic information. All this vital information could determine if there is a market for the pizza shop.

The loss of the small area census data will have a major impact on the research information available to new or existing businesses. State level census data will not provide any benefit to clients. In reality, entrepreneurs will be making micro-decisions on macro-based information. Only providing state level data will make each city or town a cologne of all the rest in the state. Clearly this is not realistic when comparing Pittsburgh, PA having a total population count of 369,879 persons and Corry, PA having a total population count of 7,216 persons. State level census data cannot distinguish demographic data for these two cities.

I urge you to evaluate the impact this decision will have on the communities within the states that rely on small area census data for planning, marketing, economic development, research and other purposes. Small area census data is a valuable resource and should continue to be published.

Sincerely,



Debra L. Coleman  
Business Analyst

S M A L L B U S I N E S S D E V E L O P M E N T C E N T E R





TEMPLE UNIVERSITY  
A Commonwealth University

School of Business and Management

6 Speakman Hall (006-00)  
Philadelphia, Pennsylvania 19122  
(215) 204-7282

Small Business  
Development Center

September 24, 1994

The Honorable Thomas W. Petri, Wisconsin Sixth District  
2262 Rayburn House Office Building  
Washington, DC 20515-4906

Dear Representative Petri:

We have recently learned that consideration is being given to discontinuing the availability of small area Census data. Since the Temple Small Business Development Center (TUSBDC) is a Census affiliate and our staff members and clients are users of such data, we need to express our great dismay at such news.

TUSBDC has been in operation ten years and is part of a nationwide network of university and college centers designed to provide a full range of services to small businesses. TUSBDC is also part of a statewide network of 14 such centers offering services in 70 outreach locations. Its main functions are two-fold: to provide free business consulting and low cost training to budding and existing entrepreneurs.

Approximately 400 companies receive nearly 4,800 hours of consulting time annually. The average continuous client receives 27 hours of consulting time. About 50% of the businesses are services, 11% are manufacturing, 16% are retailers, 5% are construction firms, 6% are wholesalers and 12% fall into other miscellaneous categories. In the last year and a half of the government procurement program, 210 firms have received assistance. Those companies have received \$4,087,000 worth of government contracts. Over 1,000 inquiries for business information and services are handled by the Center's staff each year. The TUSBDC continues its focus on minority-owned businesses. During 1993, minority clients accounted for about 60% of the total clients served. Women-owned firms represented 31% of total clients and women in dual ownership with men represented 16% of the client base. The Center conducted 27 different training events in 1993 which were attended by over 500 people. Seventy percent of the attendees were minorities and 42% were women.

Our consulting and training clients rely upon ready access to very micro-level data to make important economic development decisions, particularly concerning the location of their businesses, customer demographics and competitive trends. To lose access to such information would render informed decisions impossible.



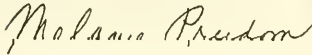
Temple Small Business Development Center  
The Honorable Thomas E. Petri

-2-

September 23, 1994

On behalf of the small business community and economic development agencies everywhere , particularly those in urban areas, please be assured of our opposition to a move of this nature.

Sincerely,

A handwritten signature in cursive script that reads "Melanie Prudom".

Melanie Prudom  
Assistant Director

cc: Rosemary Ranck, PASBDC State Director's Office  
Diane Shoop, Assistant Director, PA State Data Center



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NORTHWEST MICHIGAN  
Council of Governments

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Chairperson  
Elizabeth Edwards

Director  
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Regional Planning & Development  
Information Services  
Community Corrections

September 26, 1994

Honorable Thomas E. Petri, Member of Congress  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Petri:

There is currently a movement to use a "continuous measurement" approach for completing the Census for the year 2000. Continuous measurement means a big loss of data for small areas which comprise the bulk of our ten county region in northwest lower Michigan. If the continuous measurement approach is adopted, it will mean that, for most of our townships and villages, it will be a long time before the process produces any data at all; the data will not be comparable to 1990 and previous censuses; and, when we finally get some data, it will not be as detailed as we need.

As you are well aware, census data is crucial to rural areas because it provides information for economic development and strategic planning which would not otherwise be available. For small areas, it is only through the census and once every ten years that we receive data on the labor force, poverty status, educational levels and all of the other information necessary to analyze the competitive strengths and weakness of an area. To deprive these areas of data is to relegate them to third world status in an economic environment ever more driven by the availability of information.

We hope that Congress will discourage the use of the continuous measurement approach to the Census 2000, and we thank you for providing us with the opportunity to make our needs known.

Sincerely,

{signed}

Charlene Schlueter  
Associate Director for Information Services



# CLARION UNIVERSITY

Small Business  
Development Center

Clarion University of Pennsylvania  
102 Dana Still Building  
Clarion, Pennsylvania 16214-1232  
Phone 814-226-2060

September 23, 1994

Thomas E. Petri, Wisconsin Sixth District  
2262 Rayburn House Office Building  
Washington DC 20515-4906

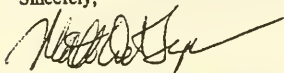
Dear Sir:

It has come to my attention that there is a possibility that small area census data will be eliminated from the decennial census. This should not and cannot happen. The small business clients in my eleven county region rely heavily on (county, township, and borough level data) for planning, location analysis, and marketing research. Small area census data is used in the majority of my small business clients business plans in the marketing analysis section and sales assumptions. These business plans are the primary requirement in most application procedures for commercial, SBA, and various economic development organizations loan programs.

Eliminating this essential data will have a direct impact on small business start-ups and expansions and eventually jobs in my region. In 1993 the Clarion University SBDC assisted over 500 small business clients with 36 of them seeking assistance with loan applications. A total of \$4,100,000 of loans were approved with the help of the Clarion University SBDC. Many of those loan approvals were the direct result of good planning and financial projections that used small area census data as support for the analysis.

I am urging the respected officials at the congressional hearing on September 27, 1994 to please consider the rural small business sector of the economy and vote in favor of continuing to provide small area census data.

Sincerely,



Matthew Denton-Sopher  
Computer/Business Analyst



# CUPPAD

## REGIONAL COMMISSION

2415 14th Avenue South Escanaba, Michigan 49829-1197  
(906) 786-9234 FAX (906) 786-4442

### CENTRAL UPPER PENINSULA PLANNING AND DEVELOPMENT REGIONAL COMMISSION

#### EXECUTIVE COMMITTEE & COUNTY REPRESENTED

Chairperson	L. Benson, Menominee
Vice-Chairperson	G. Anderson, Marquette
Secretary	L. Lindholm, Dickinson
Treasurer	T. Aho, Aiger
Director	R. Good, Delta
Director	J. Hughson, Schoolcraft
Director	L. Lauzon, Schoergraf
Director	P. Groleau, Menominee
Past-Chairperson	D. Olson, Dickinson
Executive Director	David C. Mills

September 22, 1994

The Honorable Thomas E. Petri  
2262 Rayburn HOB  
Washington DC 20515-4906

Dear Congressman Petri:

Obtaining accurate and dependable census information for small population areas is of the utmost concern to our agency. We are concerned and would be opposed to the US Census Bureau's proposed method of "continuous measurement" process for Census 2000 and for future census takings.

As a regional planning commission, we work with and provide assistance to local units of governments whose population is less than 50,000. Some have populations of less than 100 persons. It is important to have an understanding of the area, which is made possible through the information and statistics provided to us by the decennial census reports. For numerous planning reports and activities it is necessary to document and discuss trends of an area. To do so, we compare information from census period to census period. With the "continuous measurement" process, information from the 2000 Census will not be comparable with information obtained in previous censuses. This will present an extreme hardship for many planning endeavors.

It is equally important that the information that we use for various planning efforts and for support in applying to various state and federal grant programs is of a timely and current fashion. We are concerned that statistics obtained through the "continuous measurement" procedure will not be made available to small areas in a timely fashion.

We are opposed to any proposed methods or procedures that will not present to us an accurate "picture" of a community in a timely fashion. We sincerely hope that the Census Bureau will continue with its present method of collecting data. Even that procedure is not 100% accurate for small population areas, but it is better than if the "continuous measurement" system would prevail.

Sincerely,

*Peter Van Steen*  
Peter van Steen  
Senior Planner

"Some men see things as they are and say WHY,  
we dream things that never were and say WHY NOT."  
— George Bernard Shaw







EASTERN U.P. REGIONAL  
PLANNING & DEVELOPMENT  
COMMISSION

524 ASHMUN STREET - P.O. BOX 520  
SAULT STE. MARIE, MICHIGAN 49783  
906-635-1581

Rep. Thomas E. Petri  
2443 RHOB  
Washington, D.C. 20515-4906

Re: Loss of small area data

Dear Rep. Petri,

As Michigan's, Region 11, Data Center Coordinator, I am writing, for the record, to express my concern with the loss of small area data.

It is only in the past few years that data for cities under 50,000, small counties, villages and townships became available in a usable format. It has been brought to my attention that the continuous measurement approach to census taking for the future would rob small areas of this valuable information.


For the record, our region is requesting that any method of census taking that would diminish results for small areas, such as ours, not be used.

Thank you for addressing this issue.

Sincerely

*Billie Jo Hermanson*  
Billie Jo Hermanson  
Economic Dev. Specialist



Northern Illinois University   
DeKalb, Illinois 60115-2854

Center for Governmental Studies  
(815) 753-1901

FAX (815) 753-2305

September 20, 1994

Representative Petrie  
2262 Rayburn Building  
Washington, D.C. 20515-4906

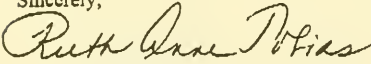
Representative Petrie:

The State Data Center Program at Northern Illinois University has been providing census data services to state and local governments, private sector users, faculty and students since 1980. The most useful data that we provide is at the level of census tracts and below, especially since we have begun to use these data in conjunction with Geographic Information System technology. These data and geographic bases are used to provide planning and project support for entities serving a particular geographic area not defined in any usual census geographic terms, and provide valuable assistance to school districts defining attendance zones and catchment zones, to businesses in defining market areas and levels of service for community reinvestment, local governments in defining emergency service regions and types of services needed, and to public health agencies to define risk of exposure to disease and hazards. The continuous measurement methodology does not currently seem to be structured to meet those needs in the same way that small area data from the decennial census meets those needs.

We strongly encourage support for the Bureau of the Census to be able to continue to make small area social and economic data available at least down to the block group level.

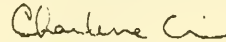
Thank you for your attention.

Sincerely,



Ruth Anne Tobias

Ruth Anne Tobias



Charlene Ceci

Charlene Ceci





AUG 20 1994

DAYTON HUDSON CORPORATION

August 18, 1994

The Honorable Tom Petri  
United States House of Representatives  
Washington, DC 20515

Dear Congressman Petri:

Dayton Hudson Corporation is the nation's fourth largest general merchandise retailer. We are a rapidly growing retailer with interests in the local neighborhoods and communities across the country. We, like other businesses, need to have an accurate assessment of our customers, our employees, and the communities in which we do business. We need timely and consistent data from the decennial and economic censuses to make valid business decisions and investments.

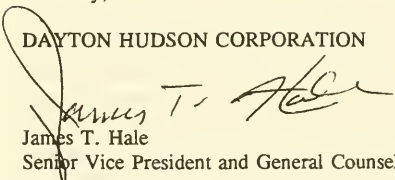
We believe in and strongly support the Census Bureau and the decennial census. In October 1992, Joan Finch, Director of Research & Planning for Dayton Hudson Corporation, testified about our Census data needs before what was then the Subcommittee on Census and Population of the Committee on Post Office and Civil Service. Currently, cutbacks are still being proposed for small area data in the year 2000 Census.

We urge you to support a Census design for 2000 that would give equal consideration to smaller areas of geography such as census tracts, cities, and smaller localities. We need information for these areas which is no less reliable than that distributed from the 1990 Census. This information is absolutely critical in our business expansion, hiring, and community giving programs.

We applaud the efforts of the Commerce Department and the Census Bureau to explore ways to improve the decennial census at lower costs. We strongly urge that any method adopted will provide reliable social and economic data for all the nation's small areas.

Sincerely,

DAYTON HUDSON CORPORATION



James T. Hale  
Senior Vice President and General Counsel

JTHUGF\nac98.pf

777 Nicollet Mall, Minneapolis, Minnesota 55402-2055  
Phone 612 370 6948

TARGET MERVYN'S DAYTON'S HUDSON'S MARSHALL FIELD'S



Mr. PETRI. Doctor, there are two questions in connection with this. Could you comment on the validity of these people's concerns about reduced accuracy and availability of small area data.

And also, second, I note that your panel thinks it unlikely that matrix sampling will present an alternative to long-form data collection in the year 2000. Could you comment on the collection of small area data in the context of matrix sampling.

Mr. BRADBURN. I think that one of the difficulties that people are having with the concept of continuous survey, when they are used to getting essentially the data in a cross-section basis every 10 years, is precisely how you would interpret moving averages. For many purposes, I think people will be quite comfortable with that.

For some of the purposes—for allocation of funds, for example—where the phenomenon that you are interested in such as poverty or income and so forth, is dynamic, it is pretty easy for people, I think, to see that something which moves along, so to speak, would intuitively be more attractive than something you just get once and then have to wait 10 years before it is updated.

On the other hand, there are a lot of users who are looking at data that don't change very much except over long periods of time. And, notably, I suppose in that sort of group are transportation planners and so forth who tend to think in longer term horizons and relatively small—smaller rates of change on average, although there will be a few areas that change rapidly. They tend to be very worried about what a moving average would do to their kinds of concerns so, in some sense, there are going to be—depending on the type of user, there are going to be quite different feelings about the relative disadvantages of just having things change once every 10 years and as compared with something that has a moving average.

As we understand the plans for continuous measurement, from a statistical point of view, granted that you are willing to take a moving average as opposed to one estimate at a point in time, the sampling variability should not be—in fact, the design parameters I understand are that the sampling period for these would not be any greater than as presently done in the long form, so from—as I say, from a technical point of view, that shouldn't be a concern, but then is.

I think people are very much just uncertain about—they are used to having a certain data product and they won't know what this will look like. We have strongly urged the Bureau to consult with their stakeholders, people that are the users of the census and show them—it is really quite simple—you don't have to wait 10 years after they have got this sort of data. You could simulate products that you would produce from a continuous measurement sort of thing to see what it would look like and what the interpretive cautions would be.

So we think that if they do this in parallel with what they are doing now and develop the plans for trying to see operationally how you do it and so forth, then they should be—I shouldn't say that. I think they are doing this, too. But they should simulate some products and present these to users and show them what it would look like, see what their concerns are, find out where it really doesn't work for some users and where it is a great improvement



for some users. And like all change, some people will be a lot better off with it and some people will not.

In answer to your question about matrix sampling, the the essence of matrix sampling is that you take, say, 100 questions on the long form, then you divide them up to, say, five forms with 20—probably 25 questions because you have to have overlap of some questions. The problem with matrix sampling is it compounds the problems that people already would have with the sampling variances, because now you would—instead of having a sixth of the population for all the stuff that is on the long form, any particular question would only be, you know, a 36th, depending on how many forms you have or whatever, so the samples would be smaller.

And if you want to do cross-tabulation—if you are just making estimates and variance estimates, it wouldn't be too bad. If you want to make cross-tabs on things to look at say, the relationship between income and some other variable, then you have to make sure that the questions are on both forms, otherwise you can't do the cross-tabulations.

There are a few variables like income which presumably are very widely used on almost all things. You would want to have income on every form and then pretty soon—at least, you would find that there are a set of things which people would say, well, we always are going to want this, so that has got to be on every form. And pretty soon you would get back to essentially the long form, so you would have a lot of difficulty, I think, figuring out how to divide it up among other things.

Our feeling is that this is not a kind of data that people are interested in. It doesn't really lend itself to the idea of the census—aside from the enormous operational complexities of doing it. It has been done, I think, in one previous census, they did something which was akin to matrix sampling, and it was a very difficult thing to do where you had different sampling rates for different questions. But it is a very complex thing, and I don't—we just thought it is not—it doesn't seem very promising to us.

And among the other things that are much more promising, given again limited resources to depend upon, we would certainly like to see more emphasis put on the use of administrative records and having a unit that really does aggressive research on that.

Mr. SAWYER. Let me just ask one more quick question. I have got a couple of others that I hope you will be willing to respond to in writing. Could you give us some sense of how well the Bureau's research on counting methods for homeless, highly mobile and other hard-to-count populations is coming. I know that there were high hopes in 1990. I suspect that most people were disappointed in the outcome.

Mr. BRADBURN. Well, if you think about the generic problem of homeless and migrant workers and so on, the approach of the census for—I won't say never, but at least in modern times, and maybe intuitively, is that you associate everybody with some residence, you can locate them in space. And of course, for apportionment, that is extremely important because they have got to be someplace to be apportioned.

But in fact not everybody in the world, as it turns out, is easily, stably associated with a geographic point, and there are certain



groups of people—of whom homeless are one by definition, and migrant workers are another one—who are not associated stably. Obviously, at any one point in time, they are someplace, but they are not stably associated with any address. And since the whole census operation works off an address register and works off the basic idea that the bulk of population is associated with some address, you have these classes of people who are in some sense problematic for this kind of approach.

Now, there are two generic approaches you can take. One is what was done previously for transients of various sorts. You say, well let's take one point in time and try to at least estimate where these floating people, in some sense, are at that moment in time. But you can't really do a whole census that way, because you take some—I mean, you can try one night, and that is the approach that has been taken in the past.

The other approach is to say, well, these people, even those who move around a lot, do leave some trace in some sense—that is, they get services, they go to shelters at some times. They are employed at some times. They are in and out of the labor force, with the farm workers and so forth, so there is sort of a trace of them in society.

So another approach is, rather than trying to take a snapshot at one particular time, look at the traces, so to speak, and try to make estimates. That leads you more to looking at administrative records or lists or rosters in homes and so forth, and that is the approach which I think the Bureau has as a new kind of approach they have been taking. And I think, on balance, that is probably a more realistic way to do it.

But it means that you have to do what, of course, in some of the other things, they have been doing: you have got to make sure the same person isn't counted twice. With the people who move around a lot, that is the major kind of danger, so you need methods for making sure that if you recorded a person here, you don't record him over there—and you don't miss him—he doesn't fall between both stools.

So those methods are moving independent of other parts of the 1995 Test, and I think that is sort of reasonably moving along. It is a tough issue to really test in the kind of way one would really like. I, myself, have been involved in one of these snapshot kind of things, and even in a small—well, this was in Chicago and not a small area—but to do that sort of sampling is very hard and very expensive, so I think these are much more productive kind of ways of going about it, just abandoning the notion that you are going to do a snapshot at one period of time.

Mr. SAWYER. Thank you very much for your presence here today, for the work that preceded it and for the contributions that will play themselves out over the next year and beyond. Thank you.

Mr. BRADBURN. Thank you.

Mr. SAWYER. Our second panel is made up of Dr. Harry A. Scarr, Acting Director of the Bureau of the Census; William M. Hunt, Director, Federal Management Issues, General Government Division, U.S. General Accounting Office.

Welcome again, gentlemen. If you would please identify your colleagues for the record. And if you would care to proceed in that



order, you are invited to summarize or emphasize your testimony as it serves your purpose.

Mr. HUNT. Mr. Chairman, with me this afternoon is Jack Kaufman. Jack Kaufman is our Senior Auditor who has been focusing on census issues for many, many years, several decades. In fact, actually I must tell you that I have been told by others, they want to remain incognito, that Jack actually goes back as far as the 1790 Census when Thomas Jefferson was the census director at the time and reported to George Washington his concerns about the census.

Jack denies that he was involved then, but he did go on to say that Washington was also concerned about the undercount that Jefferson reported.

Mr. SAWYER. My guess, however, is that Jefferson was not the Acting Director of the Census.

Mr. HUNT. I believe he was the full director. Actually, he may still be. I am not sure.

Mr. SCARR. Mr. Chairman, at the table with me is Robert Marx, who is the Associate Director for Decennial Census at the Census Bureau, and he did not participate in the 1790 Census as Jack Kaufman can attest.

Mr. SAWYER. Please proceed.

**STATEMENTS OF HARRY A. SCARR, ACTING DIRECTOR, BUREAU OF THE CENSUS, ACCOMPANIED BY ROBERT W. MARX, ASSOCIATE DIRECTOR FOR DECENNIAL CENSUS; AND WILLIAM M. HUNT, DIRECTOR, FEDERAL MANAGEMENT ISSUES, GENERAL GOVERNMENT DIVISION, U.S. GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY JACK KAUFMAN, SENIOR AUDITOR**

Mr. SCARR. Thank you, Mr. Chairman, and Mr. Petri, for the opportunity to testify today on the status of preparations for the 1995 Census Test. I would like to make my written remarks part of the record.

Mr. SAWYER. Without objection.

Mr. SCARR. At the top of the list of fundamental changes being empirically examined in the 1995 Test are new uses of sampling and estimation. These are sampling for nonresponse follow-up and sampling as part of the Integrated Coverage Measurement operation. I am going to discuss our planned evaluations of these two increased uses of sampling briefly a little later, but here I want to emphasize that the 1995 Census Test will provide essential information to inform decisions about the use of these operations in the year 2000.

Decisions about whether to conduct these sampling operations in the 2000 Census also will consider information outside of the Census Test environment, of course. We will work with others to evaluate the effect of introducing sampling error into census counts on uses of the data such as redistricting within States. All of these factors will be considered in determining how to use sampling in the 2000 Census.

The majority of the new methods we are using focus on our continuing quest to conduct the best possible count of the population through direct responses by mail, telephone, or personal visit, and



through indirect evidence in the form of records held by others in administering various Federal, State, and local programs.

The balance of the new methods focus on other aspects of the decennial census process. Some of these, such as the respondent-friendly questionnaire and the multiple mail contacts, we have tested before and we already know a great deal about them, but this will be the first time we have used them in the context of a census like environment.

Some procedures we will be testing for the first time, such as new procedures that can be widely recommended for counting people with no usual residence. These new procedures involve counting people at the facilities where homeless people receive services. In these cases, we will learn about the costs, coverage effects, and operational feasibility of the new methods.

In my testimony today, I will describe plans for evaluating various aspects of this test, including the topics you mentioned in your letter of invitation: Address list quality, sampling methodology, and overall cost. But first I want to review briefly the events that led up to the 1995 Census Test and where we go from here.

As you recall, Mr. Chairman, in February of this year, the Bureau issued final recommendations detailing the 15 fundamental design changes we plan to test in the 1995 Census Test. Those recommendations were the culmination of an open, customer-driven process that had been going on for over three years to review what the goals of the decennial census should be, to seek new ideas from all quarters, and to carefully explore the technical and policy implications of these goals and ideas.

This process, as you remember, Mr. Chairman, began in November 1990 with the Commerce Department and the Census Bureau forming the task force for designing the year 2000 Census and census-related activities for 2000 to 2009.

As you know, you helped inaugurate this effort by appearing, on February 21, 1991, with then director, Barbara Bryant, to speak at a briefing for congressional staff. The mission of the task force has been to study fundamental changes to the methodologies used to conduct recent censuses and to make its final recommendations to the Secretary of Commerce on or about January 1st, 1995. We are reasonably close to those deadlines throughout the process.

In addition to the committee's composing the task force, there have been two National Academy of Science panels to advise the Secretary on options for the 2000 Census and the decade beyond. We are pleased that Dr. Bradburn is here today to present the final report of the first of these panels, the Panel to Evaluate Alternative Census Methods.

The 1995 Census Test is the culmination of the 2000 Census Research and Development Program that may ultimately lead to reinvention of the way we conduct censuses. The window of opportunity for conducting systematic research about fundamental changes in census methodology is now, by design, closing.

By the end of 1995, final decisions must be made about the design of the 2000 Census. Experience with planning earlier censuses indicates that the focus of our efforts must then shift to operational planning and detailed implementation so that we can successfully execute the 2000 Census.



Address list quality. In the 1995 Test, we are conducting several evaluations of address list quality. One of our primary objectives for the 2000 Census is to create a nationwide regularly updated, increasingly accurate file of residential addresses. The Master Address File will be linked to continuously updated, increasingly accurate geographic data by the TIGER File. To that end, we have been working for the last two years in a cooperative venture with the U.S. Postal Service, the only source of nationwide address and mailing information that is kept up to date and current.

Local government address information and reviews provide an important source for updating the set of addresses in the Master Address File and the geographic location information associated with each. We are working with both the Postal Service and local governments in addition to conducting field operations on our own to create and validate the Master Address File for the 1995 Census Test. In my testimony, I describe how we are creating the Master Address File and our evaluations, and I won't repeat that here.

Sampling methodology. We are also conducting evaluations in the 1995 Test related to sampling methodology. The increased use of sampling is one of the most important changes we are examining for use in the 2000 Census. We have concluded that the only way we can both reduce the differential undercount and reduce costs is through the increased use of sampling.

One way we will increase our use of sampling is using it to identify the units at which we will conduct interviews during the nonresponse follow-up operations in both the urban sites and rural sites. This second use, which we are calling Integrated Coverage Measurement, will use a sample survey to estimate the undercount and correct the initial mail response and field follow-up counts according to these different estimates. They will deal with and correct the differential undercount.

Another feature will be the very fact that it will be "integrated" into the 1995 census operations to produce a census with one set of numbers in time for use in apportionment and redistricting tabulations. This is different from the 1990 Census when there were two sets of numbers. We issued the mail response and field follow-up counts first and produced adjusted numbers later.

Our goal in the 1995 Census Test is to test two different basic designs for selecting the sample used in sampling for nonresponse follow-up. These are the block sample design and the housing unit sample design which Mr. Bradburn described. We would evaluate the accuracy and quality of the integrated coverage measurement processes through a series of evaluation studies, several informal assessments using quality indicators and quality assurance results. One of our principal goals will be to examine two kinds of techniques: CensusPlus and the dual system. Each estimation methodology appears to have its advantages and disadvantages and these are discussed in my written testimony.

Costs. We will evaluate many of the fundamental changes we are testing in the 1995 Test in part based on the cost implications for the final 2000 Census design. Using an automated cost and progress system, we will collect measures of productivity, staffing levels, workloads, mileage, learning curve data, and total costs for each operation.



As part of a full-census cost model, we will use the data collected for these operations in 1995 as well as information about costs from the 1990 Census to attempt to estimate what we might expect for the year 2000.

Mr. Chairman, that concludes my remarks. I will be happy to answer any questions.

[The prepared statement of Mr. Scarr follows:]



PREPARED STATEMENT OF HARRY A. SCARR, ACTING DIRECTOR, BUREAU OF THE  
CENSUS

## INTRODUCTION

Thank you, Mr. Chairman, for the opportunity to testify today on the status of preparations for the 1995 Census Test. In this test, we are collecting information that will help us make decisions about fifteen fundamental changes in the way we conduct the decennial census; an attachment to this testimony lists these fundamental changes. The 1995 Census Test is the culmination of the 2000 census research and development program in which we are using single variable tests and other research to determine new ways to reduce the differential undercount and reduce census costs. In some instances, we have already empirically estimated the potential effects of these changes, and the test will provide information about how well they work in a census environment in combination with other changes. In other instances, we will be trying the methods for the first time. In those cases, we need to determine empirically which work better to meet those goals.

At the top of the list of fundamental changes being empirically examined are new uses of sampling and estimation. These are sampling for the nonresponse followup operation and sampling as part of the Integrated Coverage Measurement operation. I am going to discuss our planned evaluations of these two increased uses of sampling in more detail a little later, but here I want to emphasize that the 1995 Census Test will provide essential information to inform decisions about the use of these operations in 2000. For example, the 1995 test will provide the empirical, technical, operational, cost and coverage information to help us decide which sample design to use for sampling for nonresponse followup, and which estimation methodology to use in Integrated Coverage Measurement. Decisions about whether to conduct these sampling operations in the 2000 census will also consider information outside of the census test environment. For example, we will continue to conduct research on truncation of the nonresponse followup, as proposed by the Panel to Evaluate Alternative Census Methods. We will work with others to evaluate the effect of introducing sampling error into census counts on uses of the data, such as redistricting within states. All of these factors will be considered in determining how to use sampling in the 2000 census.

The majority of the new methods we are using focus on our continuing quest to conduct the best possible count of the population through direct responses by mail, telephone, or personal visit, and through indirect evidence in the form of records held by others in administering various Federal, state, and local programs. The balance of the new methods focus on other aspects of the decennial census process.



Some of these--such as the respondent-friendly questionnaire and the multiple mail contacts--we have tested before, and we already know a great deal about them. But this will be the first time we have used them in the context of a "census-like" environment. So we will be able, among other things, to learn whether the replacement questionnaires will achieve the same level of increase in mail response rates that we observed in the previous tests. Some procedures we will be testing for the first time, such as new procedures that have been widely recommended for counting people with no usual residence. These new procedures involve counting people at the facilities where homeless people obtain services. In these cases, we will learn about the costs, coverage effects, and operational feasibility of the new methods.

We will conduct the test in two urban sites--Oakland, California and Paterson, New Jersey--and one rural site, that includes six parishes in Northwestern Louisiana. We had originally planned to conduct the 1995 Census Test in four sites, but our level of appropriations for Fiscal Year 1995 does not permit us to conduct the test in New Haven, Connecticut--the fourth site. Census Day will be Saturday, March 4, 1995. Operational planning for the test began in the fall of 1993 and address list building operations are currently underway.

In my testimony today, I will describe plans for evaluating various aspects of this test, including the topics you mentioned in your letter of invitation--address list quality, sampling methodology, and overall cost. But first, I want to review briefly the events that led up to the 1995 Census Test and where we go from here.

#### 1995 CENSUS TEST IN CONTEXT

As you recall, Mr. Chairman, in February of this year, the Census Bureau issued final Test Design Recommendations detailing the fifteen fundamental design changes we plan to test in the 1995 Census Test. Those recommendations were the culmination of an open, customer-driven process that had been going on for over three years to review what the goals of the decennial census should be, to seek new ideas from all quarters, and to carefully explore the technical and policy implications of these goals and ideas.

This process began in November 1990 with the Commerce Department and the Census Bureau forming the Task Force for Designing the Year 2000 Census and Census Related Activities for 2000-2009. Mr. Chairman, you helped inaugurate this effort by appearing on February 21, 1991 with then Director Barbara Bryant to speak at a briefing for congressional staff. The mission of the Task Force has been to study fundamental changes to the methodologies used in recent censuses and to make its final recommendations to the Secretary of Commerce on or about January 1, 1995. With the



support of the Office of Management and Budget and the Congress, funding was approved beginning in 1991 for an unprecedented early effort to study new ways of planning for the 2000 census and the decade beyond.

From the outset, one of the key goals of the census redesign effort has been to keep the process open to all so that everyone can have the information he or she needs to understand the issues and the tradeoffs to be made, and to try to establish at least broad agreement on the overall goals of the census.

Openness has been accomplished through broad representation on three Task Force committees. Census Bureau and Commerce Department representatives on the Technical Committee have been joined by officials from other Federal statistical agencies; a dozen Federal departments and agencies are represented on the Policy Committee; and the Advisory Committee has members from 25 national groups representing state, local, and tribal government officials, minority organizations, and public policy organizations, as well as ex officio representation from the Congress and the U.S. Postal Service.

In addition to the committees composing the Task Force, there have been two National Academy of Sciences panels to advise the Secretary of Commerce on options for the 2000 census and the decade beyond. We are pleased that Dr. Norman M. Bradburn is here today to present the final report of the first of these panels--the Panel to Evaluate Alternative Census Methods. This panel was established by the Census Bureau to provide independent review of the technical and operational feasibility of design alternatives and tests as they were developed by the Technical Committee and tested by the Census Bureau. We have had a close working relationship with this Panel and its chair, members, and staff, and we look forward to reviewing its recommendations.

The second National Academy of Sciences Panel, under the leadership of Charles E. Schultze, deals with "Census Requirements for the Year 2000 and Beyond" and is independently examining the appropriate role of the decennial census within the Federal statistical system. This panel was established at the direction of the Congress. We look forward to seeing its final report in November.

In addition to the efforts of the Task Force and the reviews by the committees and the Panels, focus group sessions and meetings with numerous stakeholders in the census aided the open process that led to final decisions about what to test in 1995.

Thus, the 1995 Census Test is the culmination of the 2000 census research and development program that may ultimately lead to reinvention of the way we conduct censuses. The 1995 test will provide additional details about the feasibility and cost of many



of the ideas that came out of the reinvention effort. The window of opportunity for conducting systematic research about fundamental changes in census methodology is now, by design, closing. By the end of 1995, final decisions must be made about the design of the 2000 census. Experience with planning earlier censuses indicates that the focus of our efforts must then shift to operational planning and detailed implementation so that we can successfully execute the 2000 census.

#### ADDRESS LIST QUALITY

Let me now describe our evaluation plans in each of the three areas you noted in your letter of invitation to me. First, address list quality.

One of our primary objectives for the 2000 census is to create a nationwide, regularly updated, increasingly accurate file of residential addresses (the Master Address File) linked to a continuously updated, increasingly accurate geographic data base (the TIGER File). To that end, we have been working for the last two years in a cooperative venture with the U.S. Postal Service, the only source of nationwide address and mailing information that is kept up-to-date. Local government address information and review also can provide an important source for updating the set of addresses in the Master Address File and the geographic location information associated with each. We are working with both the Postal Service and local governments, in addition to conducting field operations on our own, to create and validate the Master Address File for the 1995 Census Test. Let me begin by describing how we are creating the Master Address File, then, I will describe our evaluations.

For the two urban test sites, we matched our 1990 census address control file, after some reformatting, to the Postal Service's Delivery Sequence File. Then we assigned each address to its geographic location--the census block in which it is located--using the computer in most cases, but clerically in a few instances, to create the initial Master Address File for each test site. This August, we provided this initial Master Address File to local officials in the two urban sites, who are sworn to maintain the confidentiality of the information, for their review and updating. This work is underway now and is to be completed by November 1.

In October and November, we will send locally hired Census Bureau staff into the field to conduct a further complete check of the initial Master Address File addresses in an operation called "precanvass." The prec canvass operation will help ensure that we have the most complete and accurate list possible to support our other test objectives. It also will allow us to collect valuable



information for evaluating the quality of the Master Address File and the address information provided during the local government update operation.

Beginning this December, we will reconcile differences between the initial Master Address File, the local government update information, and the prec canvass update information to create an updated version of the Master Address File. As one last check on the address list for the urban sites, we will have Postal Service clerks verify the completeness of the Master Address File and add any missing addresses just before mailout. The results of this Postal Service check will provide information about the ability of the Postal Service to provide changes to the Master Address File close to the time of questionnaire mailout. We will be able to assess the contribution of each set of activities--local updating, prec canvass, postal checks--to the completeness and quality of the final Master Address File.

We plan to use locally hired Census Bureau staff to develop the address list for the Northwestern Louisiana test site; this operation will begin in October. Although the addresses for a significant portion of the housing units in the test area have been converted, or are being converted, to a house number/street name addressing system, this area had predominantly rural style mailing addresses at the time of the 1990 census. Thus, our 1990 address control file has a serial number and a spot on a map for each address, not a mailing address recognized by the Postal Service. For these areas, we cannot match these location descriptions to the Postal Service address information. As a result, we determined that for the 1995 test, it would be more effective and accurate to compile the needed address list by field canvassing. After we complete this "prelist" operation, we will provide the addresses to the local governments for review and update, just as we have done in the urban sites.

#### Evaluation of Address List Quality

We will evaluate how complete the Master Address File was at the beginning of the test by measuring how many housing units were added or deleted by subsequent operations such as the prec canvass and the local government update. For a sample of blocks, we also will compare the final Master Address File to an address list that a second group of locally hired Census Bureau staff will independently compile as part of the Integrated Coverage Measurement operation, which I will discuss later. And we will evaluate reasons why the Postal Service could not deliver mail to some addresses in the Master Address File.

We will evaluate Postal Service address information for completeness and currency by matching it to the 1990 census address control file, to the local address information, and to results from various test census operations targeted at improving



the address list, such as the prec canvass. We also plan to investigate other characteristics of the Postal Service information, such as the reliability of information in the Delivery Sequence File about whether an address is commercial, residential, or vacant, and the accuracy of information about Postal Service drop points, which are addresses that serve multiple housing units.

We will evaluate the local government address information by matching local address files acquired for our administrative records research program to the Master Address File, by examining the results of the local update of addresses, and by simulating the potential for using locally supplied lists to create the Master Address File.

#### SAMPLING METHODOLOGY

The increased use of sampling is one of the most important changes we are examining for use in the 2000 census. We have concluded that the only way we can both reduce the differential undercount and reduce costs is through the increased use of sampling.

One way we will increase our use of sampling is using it to identify the units at which we will conduct interviews during the nonresponse followup operation in both the urban sites and the rural site. This will involve conducting interviews at only a subset of the households that do not return a census form, rather than visiting every household that does not return a form. This method is aimed at reducing costs. We expect it will greatly reduce costs because in past censuses we had to visit some households many times.

In addition to saving money, visiting only a sample of the nonresponding households will allow us to concentrate our resources on the Integrated Coverage Measurement operation to reduce the differential undercount. This second increased use of sampling--which we are calling Integrated Coverage Measurement -- will use a sample survey to estimate the undercount and then correct the initial mail response and field followup counts according to these estimates. This will improve the census counts by accounting for people who otherwise would be missed in the census process. That is, it is meant to deal with and correct the differential undercount. Another feature of the Integrated Coverage Measurement will be the very fact that it will be "integrated" into the 1995 census operations to produce a census with one set of numbers in time for use in apportionment and redistricting tabulations. This is different from the 1990 census when there were two sets of numbers. We issued the mail response and field followup counts first and produced adjusted numbers later.



Using a sample of blocks, we first will estimate the number of people the census process missed because we did not enumerate their housing units. We will do this by independently relisting the sample of blocks and matching the independent list to the Master Address File. This will allow us to identify housing units missed in the census or units erroneously included in the sample blocks during the census. We will interview and count all people in those housing units missed by the census and use the results to statistically adjust other blocks for this type of undercoverage.

To estimate the number of people missed within enumerated housing units, we will independently reinterview all enumerated units in the sample of blocks as soon as possible after the nonresponse followup operation. We will use enhanced methods to ensure we count everyone who lives in the unit and the interviewers will use laptop computers to reconcile differences between the results of their interview and the census. In this way, we can identify people that we missed and adjust the final results.

While the two new sampling techniques planned for the 2000 census will introduce a new source of error into the counts--sampling error--the Integrated Coverage Measurement technique will help to correct for counting errors. We expect that for areas with larger populations and relatively large undercounts the reduction in undercount will be much larger than the generally small error we add from sampling.

#### Evaluation Plans for Nonresponse Followup Sampling

Our goal in the 1995 Census Test is to test two different basic designs for selecting the sample used in the nonresponse followup operation. The 1995 test will provide technical information about each sample design, the sample size, and the estimation results. One design we are testing is to select the sample for followup from among all nonresponding housing units; the other design is to select a sample of blocks and follow up on all nonresponding housing units in those blocks.

The evaluation is designed to determine whether there are any differences in coverage or cost between using the housing unit sample design or the block sample design. The cost comparisons will include expenses for travel by interviewers and the time for supervising of the interviewing. To evaluate coverage, we will compare estimates of total population and the population of age, sex, and race/ethnic subgroups (the characteristics related to coverage) for each sample design in each test site. We also will analyze quality control and operational data to provide insights into potential improvements to the methodology.



### Evaluation of Integrated Coverage Measurement

We will evaluate the accuracy and quality of the Integrated Coverage Measurement processes through a series of evaluation studies, several informal assessments using quality indicators, and quality assurance results.

One of our concerns will be to see whether we can complete all required operations by December 31, which in 2000 is the date when the Census Bureau will be required to deliver counts for States to the President for the purpose of apportioning seats in the House of Representatives.

We will evaluate whether the Integrated Coverage Measurement is successful in reducing the differential undercount by adding people from traditionally undercounted groups to the final census numbers. We will do this by comparing estimates of the final census population and the sex ratios for subgroups of the population to the numbers from the mail returns alone, to those from mail returns and nonresponse followup interviews, and to those from the 1990 census.

One of our principal goals will be to examine two kinds of estimation techniques and their related methodologies: CensusPlus and dual system. CensusPlus estimation is based on the assumption that the Integrated Coverage Measurement interviewers will be able to find the "truth" about the number of people in a housing unit by using enhanced procedures. Dual system estimation does not make that assumption. It treats the Integrated Coverage Measurement as simply another independent listing that gets matched to the census results.

Each estimation methodology appears to have its advantages and disadvantages. The CensusPlus method may be easier to complete by the December 31 deadline. Because it does not require complex matching of reinterviews to the original census interviews and the subsequent followup to obtain additional information, it can be completed about two months earlier than dual system estimation. But the Census Bureau has never used this methodology before. While the dual system methodology requires independence of the two interviews, it does not require as high a level of accuracy in the reinterview as the CensusPlus does. The dual system methodology may correct for more of the undercount because it can be used to estimate those persons who were not counted in either the census or the reinterview. But it is uncertain whether we can complete the dual system methodology by the deadline. We do have experience with this methodology, which we used as part of the 1990 Post Enumeration Survey.

Other evaluations will study the accuracy of the data that we get in the reinterview, whether the Integrated Coverage Measurement operations bias respondents toward answering the census in



Integrated Coverage Measurement sample blocks, and whether the two kinds of sampling--nonresponse followup and Integrated Coverage Measurement--were integrated successfully.

#### COSTS

Finally, I will now turn to our plans for estimating the cost of each component of the test census. We will evaluate many of the fundamental changes we are testing in the 1995 test in part based on their cost implications for a final 2000 census design.

Using an automated cost and progress system designed for the 1995 test, we will collect measures of productivity, staffing levels, work loads, mileage, learning curve data, and total costs for each operation. For operations that use split panels, we will collect these data separately for each panel.

As part of a full-census cost model, we will use the data collected for these operations in 1995, as well as information about costs from the 1990 census, to attempt to estimate what we might expect for 2000.

For design features that do not use staffing, productivity, or related measures, we will collect other data (such as printing costs and hardware costs) for the 2000 census model. We will modify these costs based on estimates of what will be needed for the 2000 census and determine the associated cost implications. In some cases, these data will be based on independent industry projections. In such cases, we may need to use a range of values and determine how sensitive total 2000 census costs will be to any variations in those values.

Mr. Chairman, that concludes my testimony. I will be happy to answer any questions.



RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. THOMAS C. SAWYER TO  
HARRY A. SCARR

*Question 1A.* In an integrated coverage measurement environment, can a traditional local review program (provision of preliminary population and housing unit counts to local governments) be done from a technical standpoint?

Answer. Because of timing issues and the nature of the integrated coverage measurement (ICM) process, it is unlikely that a local review program could function as it did in the 1990 census. This is especially a factor in 1995 when we are still evaluating both the Census Plus and Dual System Estimation techniques. In the 1995 processing system, population and housing unit counts are likely to change until very late in the census process as coverage measurement and estimation occurs.

We believe the greatest benefit to a good census will accrue from our implementation of the Census Liaison functions of H.R. 5084. That process places housing unit count (address list) quality on the front end of the census, through improvement of the Master Address File (MAF) via sharing with local and tribal governments. This process, and a process to provide a final look at the address list through something like the Local Update of Census Addresses (LUCA) program, provide opportunities for a detailed review of housing unit counts.

We have heard the concern about an opportunity to review population counts before they become final. We do not yet know how to do that effectively in an ICM environment. We will continue to explore ways that we might be able to provide such an opportunity.

*Question 1B.* What are the policy issues you will consider?

Answer. The policy issues related to ICM involve the tradeoffs of timing of census results, the potential for reduced cost and improved quality through the use of sampling for nonresponse follow-up and integrated coverage measurement, and stakeholder acceptance of these techniques.

*Question 2A.* The Academy Panel suggests the use of initial 100% follow-up before sampling the remaining nonresponding households. This method could reduce the number of households to be sampled and thereby reduce uncertainty about the results.

Will the 1995 Test and the 1990 census results allow the Bureau to simulate different scenarios to determine the best balance between cost-savings and acceptable levels of uncertainty?

Answer. Yes. We will consider the scenario based on truncation along with sampling for nonresponse and assess it in terms of relative cost and accuracy. We have plans for an extensive evaluation of the nonresponse follow-up operation in conjunction with the 1995 Census Test. We plan to determine whether we should use a sample design based on individual housing units or whole blocks (where we would include all nonresponding housing units in selected blocks in the sample for nonresponse follow-up). We also plan to obtain cost and timing information from the 1995 Census Test. This will allow us to develop sampling strategies for the 2000 census.

We worked closely with the Academy Panel to examine this alternative, and have produced analyses describing the workload implications of truncation on the nonresponse process, including sampling variances for coverage measurement, potential cost savings, and combinations of truncation and sampling. We provided detailed information about the potential cost savings of truncation at various dates in the census process, and various combinations of sampling and truncation, to the Academy Panel. We will continue to consider the truncation scenario as we develop a full-cycle cost estimate for the 2000 census.

*Question 2B.* Would the use of different sampling rates for larger and smaller localities be a feasible way to address the problem of uncertainty at small geographic levels?

Answer. Yes. Over the next year, we will examine alternative designs for nonresponse follow-up and the use of varying sampling rates by governmental units.

*Question 3.* You are testing 2 ways to correct for undercount in your ICM program. If CensusPlus does not prove superior, what improvements will you make to the 1990-style PES?

Answer. The ICM program can utilize either the CensusPlus or Dual System Estimation techniques. Issues of timing, data quality, and cost will be important factors in our evaluation of these two methods. Dual System Estimation builds on what we learned in 1990 about the Post-Enumeration Survey (PES) methodology. Our use of Computer Assisted Personal Interviewing (CAPI) and the elimination of much of the PES follow-up workload undertaken in the last census represent improvements over 1990 techniques.



*Question 4.* Quick and reliable record linkage will be essential to reducing overcounts in the census. What improvements has the Bureau made over its 1990 technology?

Answer. Since 1990, we have improved our automated matching technology in the following ways:

The computer programs that standardize addresses, as a preparatory step to automated matching, have been improved. As an example, the new address standardizer is much improved in identifying within-structure designations and putting them in a common format for matching.

The computer programs that match addresses to the TIGER data base, in a process called geocoding, have been improved.

A new string comparator, a program that assigns an agreement value to a pair of strings (records), was created through a process of evaluating various string comparators available and merging the best features from each.

All these improvements will be used in the 1995 Census Test.

*Question 5.* Some 1990 coverage improvement programs were not only expensive but very error-prone. GAO had a difficult time evaluating their usefulness, because of poor record keeping.

How will you evaluate the full range of errors associated with similar programs in 1995 (eg, "Be Counted" and administrative records to bolster coverage)?

Answer. As a postcensus operation, we will conduct the Erroneous Enumeration Evaluation (3E) Survey to measure the degree to which the methodologies listed below introduced, or in the case of administrative records, may introduce, Erroneous Enumerations to the 1995 census count. During the 1995 Census Test we are using many new methods in an attempt to reduce the differential undercount and to contain the costs of taking the census. Methodologies specifically designed to meet the objective of reducing the differential undercount include:

A pro-active "Be Counted" campaign to encourage individuals or entire households who believe they may not have been counted in the census to complete a Be Counted form and mail it in to ensure that they are counted,

During telephone questionnaire assistance, the operators will be instructed to complete a Be Counted Form for respondents who do not have a census questionnaire and wish to provide their information by telephone,

Additional coverage questions added to the census questionnaire—questions 2 through 4 were added to ensure that all appropriate people are included on the census roster (question 1), and

Simulation of the use of Federal, State, and local administrative records; that is, we will *not* add individuals to the 1995 Census Test results based on our consideration of administrative records we have obtained, but we will simulate the effect that using them would have had if we had used them.

The work load for the 3E Survey will consist of samples of individuals added (or potential adds in the case of the administrative records evaluation) from each methodology listed above. Field enumerators will conduct personal interviews to determine the correct enumeration status for the individuals added (or potentially added in the case of administrative records).

An Erroneous Enumeration is defined as an enumeration considered incorrect because the person should not have been counted at the specified address on census day. For example, they may have been born after or died before census day, or they may have had a usual residence elsewhere. Erroneous Enumerations also include duplicate enumerations (the same person was counted more than once), fabricated enumerations, and enumerations that were assigned to the wrong census geography due to a geocoding error.

The 3E Survey supports the evaluations of the methodologies listed above and also supports the automated matching evaluation. During the 1995 Census Test, we will evaluate components of the automated matching system to define automated matching requirements for the 2000 census. The results from the 3E Survey will be used along with results from expert clerical review to evaluate the automated matching rules used in the test.

Specifically, the 3E Survey is designed to answer the following questions:

How many Erroneous Enumerations were entered into the 1995 census by each methodology listed above? What are the demographic characteristics of the individuals added, by final enumeration status?

We will use the results from the 3E Survey in conjunction with results from the ICM to determine the Erroneous Enumeration rates for each methodology listed above; the Erroneous Enumeration rates will appear in the final evaluation reports for each methodology. We will use new automated techniques to keep improved records of the Erroneous Enumerations by form type.



*Question 6.* You hope to complete evaluations by the end of 1995. Will you have a cost estimate for the 2000 census at that time.

Answer. Yes. The Census Bureau is taking steps to produce a "full cycle" cost estimate for the 2000 census.

*Question 7a.* You testified that you are submitting your address list to local governments at every test site. Have you requested their address lists?

Answer. Yes. We have requested address lists from local governments for the purpose of determining the effectiveness of using these lists in developing the MAF. We have requested address lists from the Oakland, California and Paterson, New Jersey urban test sites and from governmental units in the northwest Louisiana site.

*Question 7b.* Why did the Bureau decide not to start with a local list in the rural site, rather than start with your own field work?

Answer. The Census Bureau decided on canvassing as the method for developing the address list for the rural site because most housing units in those sites had addresses that were not "city style" (house number, street name) when we selected the site. As a result, we had no way to computer geocode either addresses that might have been provided by local officials or the addresses already in our 1990 Address Control Files; that is, to determine which address belonged in which block. The listing procedure solves this problem because the lister observes the location in relationship to the map. After we made this decision, we learned that several of the communities were in the process of converting to city-style addresses as part of local E-911 emergency service programs. We will use any information we receive from the local officials in the rural site in the same way we use the information provided by officials in the two urban cities.

#### RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. THOMAS E. PETRI TO HARRY A. SCARR

##### SAMPLING AND ESTIMATION

*Question.* I understand you are testing two new sampling and estimation methods in the '95 test census: sampling for nonresponse followup and integrated coverage measurement (or ICM). Can you tell me if sampling for nonresponse will increase the statistical uncertainty of the results of the ICM? In other words, how will one method impact on the other?

Answer. Sampling for nonresponse follow-up will increase the statistical uncertainty of the ICM results. The effect of the nonresponse follow-up sampling on the total uncertainty will vary most by geographic level. For geographic levels that have low populations (e.g., blocks, block groups, census tracts, and low population governmental units), most of the uncertainty will be due to this sampling for nonresponse follow-up. At higher levels of geography (county/parish, and places with larger populations), the major part of the uncertainty will result from the ICM.

*Question.* I realize that ICM, like some of the other methods, will render small area data more inaccurate. Have you planned any evaluations of the '95 test to help us determine whether what we're gaining in coverage is worth what we're giving up in accuracy?

Answer. The 1995 Census Test evaluations will allow us to determine the trade-offs between coverage gains (at higher levels of geography) versus the statistical uncertainty introduced for small areas. Experience demonstrates that the improvement in both total population and for various components of the population improves when one takes the sum of lower-level areas (such as blocks) and adds them to determine the total population for a county.

##### MATRIX SAMPLING AND CONTINUOUS MEASUREMENT

*Question.* By my count, 165 of the units of general purpose government (more than half of the communities in my district) had 1990 populations of less than 1,000 persons. Now, as you plan for the 2000 census, what steps are you taking to absolutely ensure that small communities such as these will have high quality sample data at the turn of the century?

Answer. We appreciate your concern about the reliability of sample decennial census data for geographic areas with low populations. Although there is no legislative requirement to do so, the Census Bureau took the step in both the 1980 and 1990 censuses of implementing a 50-percent sample of households in governmental units that had populations lower than 2,500 to ensure reliable estimates, especially for income data. We used a 17-percent sample in most other areas. We are still involved in determining data needs for the 2000 census to define the sample size needed to



provide reliable data for communities in 2000, from the continuous measurement program in the decade beyond.

*Question.* Can you assure me and other members of the Subcommittee that this innovation called Matrix Sampling will provide high quality sample data for places like the city of New Lisbon in Juneau County (population 1,491), the village of Kingston in Green Lake County (population 346), and the town of Iola in Waupaca County (population 637)?

*Answer.* With matrix sampling for the 2000 census, we would develop matrix sampling forms and sampling strategies to ensure that data items required to fulfill legislative requirements for these areas would be reliable and of high quality. We are in the process of determining from Federal, State, local, and tribal governments, as well as many other data users, their content needs for the 2000 census with the emphasis on the legislative requirements for the data. This process is proceeding independently of the 1995 Census Test.

Matrix sampling is a good data collection strategy if there are significant differences in the geographic detail needed for different groups of questions. For example, if certain data items are needed only at the state or county level, those data could be collected using a smaller sample than one requires for data items required by less populous places or census tracts. If the content determination process demonstrates that all or most data items are required for relatively small geographic areas, such as the ones mentioned in your example, matrix sampling would not be appropriate and, therefore, would not be implemented in the 2000 census.

*Question.* I have similar concerns about the Continuous Measurement program. Does the proposal to gather data in rolling sample surveys guarantee good and usable social and economic data for small communities like these in my district? What assurance can you give me that continuous measurement will not sacrifice data for small communities as a trade off for more timely data for large places?

*Answer.* Continuous Measurement (CM) will produce more timely data for the same tabulation areas as the decennial census, allowing the users of the data to measure change each year. Less populous communities will receive a three-year moving average in 2002, covering the years 1999 through 2001. Thus, CM will provide data in the same time frame as the 2000 decennial census. Every year thereafter, we will provide a new five-year moving average for each governmental unit by adding in the current year's data, and removing the data from the earliest year. This will allow data users to measure changes occurring in these areas, something that they can do only once in 10 years now. The CM program, as currently designed, will have a level of uncertainty that is 25 percent higher than the decennial census data. For example, an estimate with a margin of error of  $\pm 4\%$  in a decennial census sample would, under CM, have a margin of error of  $\pm 5\%$ . The trade off is that without the CM program, there will be no new data for these less populous places until 2010. However, we plan to refine our sampling strategy so that we will obtain reliable data for the least populous areas. Furthermore, by designing a flexible program, data users can create a six year, seven year, or ten year average to look at characteristics requiring larger samples.

*Question.* Can you tell me if the Bureau has made any cost estimates regarding Continuous Measurement? How do these estimates compare with the marginal cost of administering a long form sample (with oversampling in rural areas) as part of the 2000 census?

*Answer.* We are still working to produce refined cost estimates for the Continuous Measurement program. Early estimates show that there are unlikely to be savings from shifting data collection from the long form in the decennial census to Continuous Measurement for the years 1999 through 2001.

#### ADDITIONAL QUESTIONS

*Question.* The NRC Panel's report indicates two alternative plans for matrix sampling in the 1995 Census Test. Can you explain the sampling method you have chosen to use? Specifically, how many different questionnaire forms will be used in the test and what is the sampling rate for each form?

*Answer.* The NRC panel discussed two matrix designs we considered using in the 1995 Census Test.

A design using four forms with: (1) one form having all items from three subject areas—social, economic, and housing; (2) three other forms, each of which would contain combinations of two of the three of the above-mentioned subject areas. The largest form would have the smallest sample, thus reducing respondent burden relative to the 1990 census long form.



A "nested" design using three forms. One form would have all content items. The second form would contain a subset of the items on the longest form, and the third (and shortest) form would contain a subset of the items on the second form.

We have chosen to use the nested design in the 1995 Census Test because it provides the better test of whether use of shorter sample forms will improve response to the questionnaire—both in terms of overall mail return rates, and response rates to individual items. The NRC panel recommended that we pursue the nested design.

We must emphasize that more research would be needed to determine how best to implement a matrix sampling design in the 2000 census. Furthermore, the content determination process will play a significant role in determining whether matrix sampling is the best method for meeting data needs.

*Question.* During the ICM process, special enumerators will conduct an independent enumeration of one out of every ten housing units in select sample blocks. My understanding is that this stratified sample will be selected based on race/origin, tenure, and age/sex characteristics. Is this correct?

*Answer.* The ICM process is carried out for all housing units in a sample of blocks. The sampling rate was about 1-in-6 blocks in Paterson, 1-in-9 blocks in Northwestern Louisiana and 1-in-14 blocks in Oakland. This sample of blocks was selected by first creating several sampling strata in each site based on race/origin and housing ownership/renter status. Age and sex were not used in this stratification process.

Mr. SAWYER. You have 15 seconds left. That was right on the money. Let me ask you before you move on, would you care to discuss for a moment and for the record the decision to cancel the New Haven test site.

Mr. SCARR. In the selection process for test sites for the 1995 Test, the technical staff at the Bureau used a series of criteria, which I have described before this committee, to select a number—to select and rank a number of particular sites.

When we received the budget mark for fiscal year 1995, it became clear that something had to give. Our concern was that we did not want to eliminate unique tests that were not duplicated anywhere else in the 1995 testing program. We didn't want to eliminate a rural site because we had only one. We didn't want to eliminate testing DCS 2000. We didn't want to eliminate the new procedures for trying to improve coverage that Norm talked about, so we were down to the three urban sites as candidates for elimination because there is a certain duplication amongst the sites.

The professional staff at the Bureau recommended that the New Haven site be eliminated. The criteria that each site brought to the testing program were looked at very carefully by that staff and it was their belief that that particular urban site would result in the least loss of information in the testing program.

Mr. SAWYER. Thank you.

Mr. Hunt.

Mr. HUNT. Thank you, Mr. Chairman, Mr. Petri. I am pleased to be here today to comment on the Census Bureau's plans for its 1995 Census Test. I plan to summarize my statement, Mr. Chairman, and also ask that the full text be entered into the record.

Mr. SAWYER. Without objection.

Mr. HUNT. I also ask perhaps for your indulgence that I worked very hard really to get this within the 5 minutes suggested in the invitation letter. I didn't quite make it, but I am going to do the very best I can to cover this quickly.

Mr. SAWYER. We will average this in.

Mr. SCARR. You can have my 15 seconds.

Mr. HUNT. The 1995 Test Census is crucial to the Bureau for determining operational feasibility of the design changes and their ef-



fects on the quality and cost of census data. We are generally in agreement with the changes in methods the Bureau plans to test in 1995 because they are consistent with what we have previously recommended or suggested for reforming the census. However, the Bureau has considerable work to do, including the completion of its evaluation plans for these changes before it can take full advantage of the opportunities presented by the 1995 Test.

Only after the test is evaluated can the Bureau provide policy-makers the information that they need to make major decisions on the fundamental design of the 2000 Decennial Census. I will briefly summarize our observations on six key points regarding the 1995 Test: Address list development, identification of vacant and non-existent housing units, the one number census, use of sampling for nonresponse follow-up, counting the homeless, and controlling census costs.

Regarding the first point, developing an address list, an accurate and complete address list that identifies the mailing address and physical location of each housing unit is the cornerstone of a successful census. We reported that often redundant labor intensive and costly procedures the Bureau used to develop the address list for the 1990 Decennial Census did not produce a complete and accurate list.

1995 Census Test activities regarding address list development are already under way. The Bureau has worked with the Postal Service to create address lists for the urban test sites. In addition, the Bureau has begun testing the urban local government's abilities to update address lists for their respective communities. An important component of this effort with local governments includes supplying them with the Bureau's list of complete housing unit addresses as opposed to the past practice of providing them with only housing unit counts at the block level.

While providing complete addresses may facilitate the local review process, it does raise the confidentiality issue which must be carefully considered.

For its address list development methods, the Bureau plans to collect data on, one, the accuracy of the Bureau's address list compared to the Postal Service's automated address file; two, local government's ability to review the Bureau's address list and maps; three, the sources of local government input such as administrative records; and four, other sources of address list, additions, deletions and changes. These data should be useful in the Bureau's evaluation of its address list development methods.

Regarding the second point, identifying vacant and nonexistent housing units. In 1990, the Bureau sent temporary census workers called enumerators to visit those 34.3 million housing units from which a census questionnaire was not returned by mail. However, many of those visits were not necessary because a housing unit either was vacant or did not actually exist.

Of the approximately 100 million questionnaires delivered in the 1990 Decennial Census, Bureau records show that 8.6 million were delivered to units subsequently found to be vacant and 4.8 million were sent to nonexistent units. These 13.4 million addresses represented about 39 percent of the 34.3 million housing units that re-



quired repeated visits from census enumerators because a questionnaire was not mailed back.

In the 1995 Test Census, the Bureau plans to test the use of Postal Service letter carriers to identify vacant and nonexistent units. The basic procedures the Bureau outlined for using Postal Service to identify vacant and nonexistent units early in the census process appear to be sound. The Bureau's evaluation plans should enable it to determine the completeness and accuracy of the Postal Service's process in identifying vacant or nonexistent units.

If the evaluations prove the value of this new census method, the identification of vacant and nonexistent housing units early in the census operation will reduce the cost of following up on nonrespondents.

Regarding the third point, planning for a one number census, each decennial census has undercounted the Nation's population. On the basis of the Bureau's demographic analysis, the net undercount for the 1990 Census was estimated to be 1.8 percent of the population, or 4.7 million persons, representing a significant increase over the estimated 1.2 percent undercount in 1980.

Not counting every individual is in many ways no surprise, especially given the enormous task and complications associated with an enterprise as large as the decennial census. What is troubling, however, is the disproportionality of the undercount. Minorities are missed at considerably higher levels. The estimated 4.4 percentage point difference in the 1990 net undercount between blacks and non-blacks was the highest such difference since the Bureau began estimating the accuracy of census coverage with the 1940 Census.

Integrated Coverage Measurement, or ICM, a statistical method that the Bureau plans to test in 1995 is designed to improve the accuracy of the census count by reconciling the results of the original census counts with data obtained from a sample of households. By using the ICM method in the 1995 Test, the Bureau plans to obtain a one number census, rather than the two population numbers it developed for the 1990 Census, that is the census head count and the one based on the post enumeration survey.

As part of the ICM method, the Bureau also will use procedures similar to the ones used in the 1990 post-enumeration survey to help it evaluate the results obtained by the new method. The Bureau faces many operational challenges regarding the ICM that need close examination in the 1995 Test. Challenges include handling and getting information on those who moved between census day and the sample interview. Willingness of households to cooperate with multiple census data gathering efforts. Implementing field computer technology and the possibility that bias may be introduced in the interview process as enumerators attempt to match their results with data gathered from earlier census procedures.

The Bureau has not completed its evaluation methodology for the very important integrated coverage measurement portion of the 1995 Test. We understand that the methodology will not be completed until December of 1994. As a result, Mr. Chairman, we are unable to render an opinion as to the appropriateness of the Bureau's evaluation plans for this important operation at this time.

Regarding my fourth point, sampling of nonrespondents. In 1990, the Bureau's mail return rate was considerably lower than it was



in the 1980 Census. As a result, the Bureau had to follow up on 34.3 million housing units. In our 1992 report, we encouraged the Bureau to evaluate using statistical methods of sampling for some or all of the nonrespondent workload to reduce the time and cost associated with the labor intensive field work and to expedite the census process.

The Bureau plans to follow up on a 33 percent sample of nonrespondents in the 1995 Test using two different methods to draw these samples, a block sample and a housing unit sample. As we previously reported, the number of errors found in the census data, including the accuracy of the basic count, increases in proportion to the time it takes to complete the census.

By concentrating its attention on a sample of nonrespondents, the Bureau may be able to obtain more accurate data on the number and characteristics of nonrespondents. On the other hand, the nature of sampling itself increases the statistical uncertainty of the data on nonrespondents, particularly at lower geographic levels such as blocks and aggregations of blocks. The effects of sampling nonrespondents on the accuracy of data must be weighed against the potential cost savings.

The Bureau's 1995 Test Census should provide data on the trade-off between accuracy and cost. Thus, in making its major design decisions in December 1995, the Bureau will need data from sampling nonrespondents showing the statistical uncertainty of the data at various geographic levels. We are concerned that the Bureau's planned evaluation of nonresponse sampling focuses solely on comparing the accuracy of the counts produced by the two sampling methods and does not include an evaluation of these new methods in comparison to its more traditional attempts to contact all nonrespondents or to evaluate the benefits and costs of using sampling after an initial attempt to contact all nonrespondents.

Regarding my fifth point, counting the homeless. The 1990 decennial census marked the first time that the Bureau included a nationwide effort known as S-Night to gather information on the number and characteristics of selected components of the homeless population. Our 1991 evaluation of S-Night showed that it was hampered by methodological and other problems. The nighttime method of counting homeless people at selected street locations resulted in an unknown number of hidden homeless who were missed and no assurance that those really were homeless and would not also be counted during other census procedures.

For its 1995 Test, the Bureau plans to change its approach for counting the street population of the program to a daytime one. It plans to test the feasibility of a daytime approach at facilities where persons with no usual residence receive services, such as food kitchens and social service centers. Evaluation of 1995 Test results need to provide information on the Bureau's ability to overcome the undercounting and possible double counting experienced in 1990.

Finally, regarding my sixth point, turning to cost considerations, decennial census costs have increased dramatically over the past few decades, the 1970 decennial census cost \$221 million, the 1980 decennial cost \$1.1 billion. The 1990 decennial census continued this upward spiral costing about \$2.6 billion. In 2000, without



changing methodology, the census is estimated to cost \$4.8 billion. The Bureau's 1995 Census Test includes many promising options that could result in significant cost reductions for 2000.

In the key areas of developing an address list and identifying housing units that are vacant or nonexistent, the Bureau spent about \$727 million on these activities in 1990. Forging a closer working relationship with the Postal Service, as will be partially tested in the 1995 Test, clearly holds great promise in identifying opportunities for significant cost reductions in the 2000 Decennial Census.

For example, the Bureau estimated that it could have saved between \$121 million and \$165 million by using letter carriers to identify vacant and nonexistent units in 1990. The use of sampling nonrespondents also holds great promise for significant cost savings and striking a favorable balance between cost and data accuracy. The Bureau estimates show that it could save between \$429 and \$457 million of the \$560 million it spent on follow-up by sampling 30 percent of nonrespondents.

Before closing, I want to make one final point. In the past, the Bureau has had difficulties obtaining reliable cost information from its census operations. In our evaluation of prior Bureau planning activities, we have said that the Bureau needed to place more emphasis on getting complete and accurate costs and productivity data for evaluation of its tests.

In our review of the 1990 Census, we found that even generally reliable information on the costs and benefits of important activities was extremely difficult to obtain, while the Bureau's plans for the 1995 Test includes the design of an automated cost and progress system to capture measures of actual costs of different field and processing operations. We are concerned whether this area is receiving sufficient priority. The Bureau needs to make every effort to strengthen its cost and productivity information systems.

Mr. Chairman, Mr. Petri, we plan to continue our review of the 1995 Test Census as operations unfold and we will be prepared to periodically report our findings to the subcommittee.

This concludes my statement, and Jack and I will be pleased to answer any questions that you may have.

[The prepared statement of Mr. Hunt follows:]



PREPARED STATEMENT OF WILLIAM M. HUNT, DIRECTOR, FEDERAL MANAGEMENT  
ISSUES, GENERAL GOVERNMENT DIVISIONS, U.S. GENERAL ACCOUNTING OFFICE

The 1995 Test Census is crucial in determining how the Bureau of the Census will conduct the 2000 Decennial Census. Evaluation of the new methods should provide the Bureau information about their operational feasibility and potential for achieving the desired results of improving accuracy and containing costs. GAO discusses the following specific areas of the 1995 Test Census:

- The Bureau should gain insight into the accuracy of its address list and maps and how well new methods to cooperate with the Postal Service and local governments may contribute to improvement in quality. The Bureau plans to collect data that should be useful in other planned evaluations of its address list.
- The Bureau's plans to have the Postal Service identify vacant and nonexistent housing units early in the enumeration process could demonstrate the potential for substantial savings. The Bureau can maximize those savings by ascertaining the earliest point at which housing units are accurately identified as vacant or nonexistent.
- The Bureau's plan to evaluate a statistical method that incorporates sampling to provide an improved count by producing one, rather than two, census counts is encouraging but faces several policy and operational challenges.
- The Bureau's test of the use of sampling of nonrespondents provides the opportunity to evaluate a method that could significantly reduce the cost of the census; it also may affect the accuracy of the data on nonrespondents. Current Bureau evaluation plans do not provide for measuring the accuracy of the new sampling methods compared to previous methods or sampling remaining nonrespondents after an initial attempt to contact all of them.
- The Bureau's test is planned to include an evaluation of a new method for enumerating some persons with no usual residence that offers the opportunity to determine if the Bureau can overcome the procedural and operational problems of the method it used in the 1990 Decennial Census.

It is important that the Bureau identifies the data needed from the test, collects complete and accurate cost information, and completes its evaluations so that the 1995 Test Census can provide policymakers the information that they need to make major decisions on the fundamental design of the 2000 Decennial Census.



Mr. Chairman, Mr. Petri, and Members of the Subcommittee:

I am pleased to be here today to comment on the Census Bureau's plans for its 1995 Test Census. Specifically, you asked us to discuss the following changes in census methods that the Bureau plans to include in its 1995 Test Census: (1) new data sources and methods to help compile the census address list, (2) the use of the Postal Service to identify addresses on the Bureau's list that are either vacant or nonexistent, (3) two sampling and statistical estimation methods designed to decrease the cost and improve the accuracy of the census, and (4) a new method for counting those persons without a usual residence. In addition, as you requested, we examined the cost implications of the methods being tested.

The 1995 Test Census is crucial to the Bureau for determining what fundamental design changes to incorporate into the 2000 Decennial Census. It should provide the Bureau with information about the operational feasibility of the design changes and their effects on the quality and cost of census data. We are generally in agreement with the changes in methods the Bureau plans to test in 1995 because they are consistent with what we have previously recommended or suggested for reforming the census. However, the Bureau has considerable work to do, including the completion of its evaluation plans for these changes, before it can take full advantage of the opportunities presented by the 1995 Test. Only after the test is evaluated can the Bureau provide policymakers the information that they need to make major decisions on the fundamental design of the 2000 Decennial Census.

#### BACKGROUND

The accuracy of the 1990 Decennial Census fell below that of the 1980 Census, while census costs escalated significantly. We reported in 1992 that fundamental changes must be implemented for a successful census in 2000.<sup>1</sup> The Department of Commerce and the Bureau also recognized that the previous methods of census taking needed to be reassessed to achieve the goals of improving the accuracy and containing the cost of future censuses.

The plans for the 1995 Test Census are the result of the Bureau's research and development program that began in 1991 to explore changes in methods for collecting, sampling, and estimating data. The 1995 Test was originally scheduled to be done in three urban sites: New Haven, Connecticut; Oakland, California; and Paterson, New Jersey; and one rural site, which includes six

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<sup>1</sup>See Decennial Census: 1990 Results Show Need for Fundamental Reform (GAO/GGD-92-94, June 9, 1992).



parishes in northwestern Louisiana.<sup>2</sup> The Bureau plans to make many of its final design decisions for the 2000 Decennial Census by December 1995.

Our testimony is based on our review of the changes the Bureau plans to consider as part of the 1995 Test Census, discussions with Bureau officials, visits to the urban test site locations, and our work on prior decennial census activities. (A list of related GAO products is attached to this statement.)

#### THE BUREAU PLANS TO GATHER DATA TO EVALUATE ADDRESS LIST DEVELOPMENT METHODS

An accurate and complete address list that identifies the mailing address and physical location of each housing unit is the cornerstone of a successful census. In the 1990 Decennial Census, the Bureau, for the first time, developed its own automated system that allowed the Bureau to incorporate changes from its various address list development procedures. The Bureau also asked local governments to check the accuracy of its address list at two stages in the census process. Before mailing the questionnaire, the Bureau gave local governments the opportunity to review the number of housing units contained in each block. At the end of most 1990 census operations, the Bureau asked local governments to again check the accuracy of their housing unit count by block.

We reported that the often redundant, labor-intensive, and costly procedures the Bureau used to develop the address list for the 1990 Decennial Census did not produce a complete and accurate list.<sup>3</sup> The Bureau missed or erroneously included millions of housing units in its final count of 102 million units. The Bureau estimated that about 3.7 million, or 3.6 percent, of all housing units--occupied and vacant--were missed and that another 2.9 million, or 2.8 percent, were erroneously counted.

Since the 1990 Decennial Census, the Postal Service's ability to assist the Bureau has been enhanced because the Postal Service has continued to develop its automated address file that is to include every address to which it delivers mail. For the 1995 Test Census' urban sites, the Bureau collaborated with the Postal Service to create address lists that consisted of the Bureau's address list updated by the Postal Service's address list file.

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<sup>2</sup>Because of budget considerations, the Bureau eliminated New Haven, Connecticut, as a test site on September 16, 1994.

<sup>3</sup>See GAO/GGD-92-94.



For the 1995 Test, the Bureau has begun testing the urban local governments' ability to update its address lists and associated geographic maps. In this revised local review program, the Bureau has sent local governments complete lists of housing unit addresses and local area maps for review instead of only block counts. Because of a confidentiality statute,<sup>4</sup> this procedure required swearing in, as temporary Bureau employees, all local government officials who may have access to these data. It is too early in the local governments' review process to tell if they will be able to effectively work with and improve the Bureau's data.

Although the evaluation of address list development methods is not a formal objective of the 1995 Test, the Bureau plans to collect data on (1) the accuracy of the Bureau's address list compared to the Postal Service's automated address file; (2) local governments' ability to review the Bureau's address list and maps; (3) the sources of local government input, such as administrative records; and (4) other sources of address list additions, deletions, and changes. These data should be useful in the Bureau's planned future evaluations of its address list development methods.

#### BUREAU PLANS FOR IDENTIFICATION OF VACANT AND NONEXISTENT HOUSING UNITS INCREASE RELIANCE ON POSTAL SERVICE

In 1990, the Bureau sent temporary census employees, called enumerators, to visit those 34.3 million housing units from which a census questionnaire was not returned by mail. However, many of those visits were not necessary because a housing unit either was vacant or did not actually exist. Of the approximately 100 million questionnaires delivered in the 1990 Decennial Census, 8.6 million were delivered to units subsequently found to be vacant; and 4.8 million were delivered to nonexistent units, according to Bureau records. These 13.4 million addresses represented about 39 percent of the 34.3 million housing units that required repeated visits from census enumerators because a questionnaire was not mailed back.

At the urging of Congress, the Bureau used the Postal Service during the 1990 Census to help identify the occupancy status of some of the last, most difficult follow-up cases. A Bureau study found that although additional testing was needed, this method appeared to be a very inexpensive and useful way to help complete these final cases. In our 1992 report, we encouraged the Bureau to use the Postal Service to identify vacant and nonexistent units before any census forms were mailed because we believed

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<sup>4</sup>Title 13, United States Code, Sections 9 and 23(c).



such an approach could yield substantial savings.<sup>5</sup> However, we noted that testing the use of the Postal Service in this capacity would be necessary because the Bureau had no data from the 1990 Census on how accurately the Postal Service identified units as nonexistent. Also, the Bureau did not ask the Postal Service to identify vacant units during its 1990 Census address list development operations.

In the 1995 Test Census, the Bureau plans to test the use of Postal Service letter carriers to identify vacant and nonexistent units when it mails census questionnaires. The Bureau's plan is to use undeliverable, First-Class Mail that the Postal Service returns to the Bureau to identify vacant and nonexistent housing units. The Postal Service is to have three separate opportunities to identify an address as undeliverable: (1) during a manual check before the questionnaires are mailed out, (2) during the delivery of a "prenotice" letter alerting households to the arrival of a census questionnaire within 10 days, and (3) during the delivery of the questionnaire package. After the Postal Service classifies units as vacant or nonexistent, the Bureau would begin its visits to those households that did not return a questionnaire by mail to verify the accuracy of the Postal Service's classifications.

As part of the test, the Bureau plans to evaluate by December 1995 the following issues: (1) the completeness and accuracy of the Postal Service's identification of units as either vacant or nonexistent; (2) the rates at which various operations misclassify vacant and nonexistent housing units; (3) the potential for the Bureau to use sampling methods to recheck the Postal Service's classifications of the occupancy status and existence of housing units; (4) whether a Bureau mailing of a prenotice letter or a mailing of the questionnaire itself is the best method for letter carriers to identify vacant or nonexistent units; and (5) the potential cost impact of these methods.

The basic procedures the Bureau outlined for using the Postal Service to identify vacant and nonexistent units early in the census process appear to be sound. The Bureau's evaluation plans seem well-focused on the important issues. If the evaluations prove the value of this new census method, the identification of vacant and nonexistent housing units early in the census operation will reduce the cost of following up on nonrespondents.

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<sup>5</sup>See GAO/GGD-92-94.



THE BUREAU'S USE OF THE SAMPLING METHODOLOGY DESIGNED TO IMPROVE  
THE ACCURACY OF THE CENSUS COUNTS PRESENTS CHALLENGES

Each decennial census has produced an undercounting of the population, which has been most pronounced for minority populations. For the 1990 Decennial Census, on the basis of the Bureau's demographic analysis, the net undercount was estimated to be 1.8 percent of the population, or approximately 4.7 million persons. The net undercount rate was higher than the estimated 1.2 percent net undercount for the 1980 Census, which was based on similar demographic analysis methods.

The estimated 4.4 percentage point difference in the 1990 net undercount rate between blacks (5.7 percent) and non-blacks (1.3 percent) was the highest such difference since the Bureau began estimating the accuracy of census coverage with the 1940 census. Because of the undercounting in the 1990 Decennial Census, the Secretary of Commerce considered an adjustment to the 1990 Census results to correct the undercount.<sup>6</sup> On the basis of the data available at that time, the Secretary decided against the adjustment.

Integrated coverage measurement (ICM)--a statistical method that the Bureau plans to test in 1995--is designed to improve the accuracy of the census count by reconciling the results of the original census counts with data obtained from a sample of households. The ICM method presents the Bureau with several operational challenges. For example, completing this statistical method by the end of December 1995 will be difficult. For the 1995 Test Census, the Bureau plans to move up Census Day by about 4 weeks, from April 1 to March 4, to allow more time to complete its tabulation of the data by December 31, 1995.<sup>7</sup>

The Bureau developed the ICM method not only to improve the census counts but also to reduce the time required by the 1990 Census method it used to check the accuracy of the original counts and to produce adjusted numbers--the Post Enumeration Survey. By using the ICM method in the 1995 Test, the Bureau plans to obtain a one-number census, rather than the two population numbers it developed for the 1990 Census--the headcount and the one based on the Post Enumeration Survey. For the new method, the Bureau plans to (1) create an independent address list for a sample of blocks, (2) interview all households on that list, and (3) then immediately match the results of those

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<sup>6</sup>The issue of adjusting the 1990 census counts is currently in litigation.

<sup>7</sup>A change in Census Day for the 2000 Decennial Census would require an amendment to Title 13, United States Code, which sets April 1 as Census Day.



interviews to the results from its previous census procedures. This matching is to be done by the enumerator during the interview itself in order to expedite that procedure and improve the accuracy of the matching.

From this matching, the Bureau plans to determine what it deems to be the "true population" based on the sampled households on Census Day. The Bureau is to develop a ratio between the original population count and the "true population" count and apply that ratio by demographic groups, such as race, to the total population. To expedite and improve this matching activity, the Bureau plans to test the use of notebook computers and sophisticated software to gather the sample interview data and then compare the sample data to the data gathered by the regular census procedures.

As part of the ICM method, the Bureau will use procedures similar to the ones used in the 1990 Post Enumeration Survey to help it evaluate the results obtained by the new method. This will add about 2 months to the time needed for completion of the ICM. The Bureau's present schedule also shows that it will complete population estimates for each test site by December 1995, and it will complete block-level estimates by April 1996.

The Bureau faces many operational challenges that need close examination in the 1995 Test. For example, obtaining information about the occupants of a household if they have moved between Census Day and the day of the sample interview may be difficult for the Bureau. Bureau statisticians estimate that about 7 percent of the households in the test areas will move during that time. Also, the Bureau may encounter a lack of cooperation from households chosen for the sample interview procedure because they may have already been personally interviewed during regular census procedures or because they may resent the more lengthy list of questions the Bureau plans to ask during the sample interview. Using the required computer technology may be difficult for Bureau enumerators. Also, the interview process may introduce bias into the results of the process by having enumerators attempt to match the results of their own interview with the data gathered in earlier census procedures.

The Bureau is developing its evaluation methodology for the integrated coverage measurement. It expects to complete this methodology by December 1994. Bureau statistical specialists told us that the most important planned evaluations should be completed by December 1995. Without being able to review the Bureau's evaluation methodology, we are unable to render an opinion as to its appropriateness and the feasibility of the evaluations being completed by that date.



OPPORTUNITIES EXIST TO EXPAND THE EVALUATION OF SAMPLING OF  
NONRESPONDENTS

In past censuses, the Bureau mailed questionnaires to virtually all households in the country and requested that they mail back completed questionnaires. For those who did not mail back completed questionnaires, the Bureau sent enumerators to attempt to retrieve missing questionnaires. Enumerators were required to make up to six contacts--three of which were personal contacts--with the households before resorting to other methods to obtain the data. For the 1990 Census, the Bureau's workload for following up on nonrespondents depended on the census mail return rate. In that census, the Bureau's mail return rate was considerably lower than it was in the 1980 Census--63 percent, 12 percentage points lower than in 1980. As a result, the Bureau had to follow up on 34.3 million housing units.

Before the 1990 Census, we recommended that the Bureau consider using statistical methods to develop census information on nonrespondents.<sup>8</sup> In our 1992 report, we again encouraged the Bureau to evaluate the use of the statistical methods of sampling for some or all of the nonrespondent workload to reduce the time and labor-intensive fieldwork and speed the census process.<sup>9</sup>

To reduce the nonrespondent workload, the Bureau plans to follow up on a 33-percent sample of nonrespondents in the 1995 Test. The Bureau plans to use two different methods to draw these samples. One sampling method--the block sample--is to preselect a sample of 33 percent of the blocks in portions of the test sites and follow up on all households in those blocks that do not return a questionnaire. In other portions of the test site, the Bureau plans to use another sampling method--the housing unit sample, which is to draw a sample of 33 percent of the housing units that do not return a questionnaire, regardless of the blocks in which they are located.

Sampling nonrespondents can reduce cost and could improve the overall accuracy of census counts in both positive and negative ways. Sampling nonrespondents could improve the accuracy of the data on nonrespondents. As we have previously reported, the number of errors found in the census data--including the accuracy of the basic count--increases in proportion to the time it takes to complete the census.<sup>10</sup> By concentrating its attention on a

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<sup>8</sup>A \$4 Billion Census in 1990? Timely Decisions on Alternatives to the 1980 Procedures Can Save Millions (GAO/GGD-82-13, Feb. 22, 1982).

<sup>9</sup>See GAO/GGD-92-94.

<sup>10</sup>See GAO/GGD-92-94.



smaller sample of nonrespondents, the Bureau may be able to obtain more accurate data on the number and characteristics of nonrespondents.

On the other hand, the nature of sampling itself increases the statistical uncertainty of the data on nonrespondents--particularly at lower geographic levels, such as blocks and aggregations of blocks. The magnitude of this uncertainty can be statistically calculated on the basis of such variables as the size of the sample, the method used to draw the sample, and the size of the universe being sampled.

The effects of sampling nonrespondents on the accuracy of the data must be weighed against the potential cost savings. The Bureau's 1995 Test Census should provide data on the trade-off between accuracy and cost. Thus, in making its major design decisions in December 1995, the Bureau will need data from sampling nonrespondents showing the statistical uncertainty of the data at various geographic levels. Although the Bureau is concentrating on maximizing savings, policymakers will need data that compare the accuracy and costs of the Bureau's two methods for sampling nonrespondents with the accuracy of the data and costs obtained by the past method of attempting to contact all such households. Policymakers will also need data on the costs and what the level of uncertainty and accuracy might be if the sampling of nonrespondents is done after an initial attempt to contact all nonrespondents.

Currently, the Bureau's evaluation focuses solely on comparing the accuracy of the counts produced by the two different methods of sampling nonrespondents--the block sample and the housing unit sample. It plans to compare the census counts obtained by each of those methods by such factors as the average population per household, which might indicate which is the more accurate method. However, the Bureau does not plan to evaluate these new methods in comparison to the past method of attempting to contact all nonrespondents or to evaluate the benefits and costs of an initial attempt to contact all nonrespondents.

THE BUREAU'S PLAN FOR THE 1995 TEST IS INTENDED TO MORE ACCURATELY INCLUDE THOSE PERSONS WITH NO USUAL RESIDENCE IN THE CENSUS

The 1990 Decennial Census marked the first time that the Bureau included a nationwide effort to gather information on the number and characteristics of selected components of the homeless population. Referred to as the Street and Shelter Night, or "S-Night," the effort counted persons at homeless shelters and selected street and other locations during nighttime hours.



In 1989 the Bureau had tested a daytime count at facilities that serve homeless persons and found that a daytime count may produce a more accurate count, but the Bureau determined that it was too late to change its plans for S-Night. S-Night was hampered by methodological and other problems. When the Bureau decided to do a nighttime count at sites where homeless people were known to congregate, it acknowledged that it would miss a portion of the homeless population at sites considered too dangerous for census enumerators to enter. Also, the Bureau had no procedures for ensuring that persons counted during S-Night would not also be counted during other census operations, resulting in possible double-counting. Further, the Bureau depended on the local governments to identify the locations where homeless people might be found. Although most of the large cities responded to the Bureau's request to identify such street locations, overall, only 36 percent of all local governments responded.

Our 1991 evaluation of S-Night showed that the nighttime method of counting homeless people at selected street locations resulted in an unknown number of the hidden homeless being missed and no assurance that those counted were homeless and would not also be counted during other census procedures.<sup>11</sup>

For its 1995 Test, the Bureau plans to change its approach for counting the street portion of the program to a daytime one. It plans to test the feasibility of a daytime approach at facilities where persons with no usual residence receive services, such as food kitchens and social service centers. The Bureau plans to collect information such as the name, date of birth, age, where the respondents usually live, or if they have a usual place of residence.

During the 1995 Test, the Bureau plans to evaluate (1) the effectiveness of the process used to develop a list of facilities, (2) the number of people counted at the various facilities, (3) the extent to which people were double-counted, (4) the reliability of the responses to questions about usual residence and where a respondent stayed the previous night, (5) strengths and weaknesses of the service-based enumeration procedures, (6) the feasibility of follow-up enumerations, and (7) the costs of the operation.

The procedures the Bureau plans to test to more accurately count those persons with no usual residence seem properly designed. The Bureau's evaluation plan appears to identify the data it needs for proper evaluation.

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<sup>11</sup>See 1990 Census: Limitations in Methods and Procedures to Include the Homeless (GAO/GGD-92-1, Dec. 30, 1991).



# THE 1995 TEST CENSUS HAS COST IMPLICATIONS FOR THE 2000 DECENNIAL CENSUS

In 1990, the Bureau estimated that if the census-taking approach did not change, the 2000 Decennial Census could cost about \$4.8 billion. Decennial census costs have increased dramatically over the past few decades. The 1970 Decennial Census cost \$221 million, and the 1980 Decennial Census cost \$1.1 billion. Even when inflation and increased workload are taken into account, the costs of the 1980 Census doubled from the prior one. Despite the Bureau's early goal of containing cost in the planning of the 1990 Census, the 1990 Decennial Census continued this upward spiral, costing about \$2.6 billion. Adjusting for inflation and workload growth, the cost of the 1990 Census was still 25 percent higher than that of the 1980 Census.

Responding to congressional concerns about the escalating costs, the Bureau committed to exploring more cost-efficient ways to take the 2000 Census by again making cost containment one of its goals for the 2000 Census. In its plans for the 1995 Test, the Bureau incorporated a number of new methods we discuss in this testimony that could achieve cost efficiencies.

In address list development, the results of the revised procedures used in the 1995 Test may show ways the Bureau could reduce a costly element of the process--field canvassing to develop and check the list and maps. To develop its address list and maps for the 1990 Census, the Bureau employed a series of procedures, including field canvassing of almost every block in the country, to create or check the list. The procedures cost about \$182 million. An automated geographic system that supported the list by generating maps and helping to geographically locate addresses cost an additional \$328 million to develop during the 1980s and was first used in the 1990 Decennial Census. In the 1995 Test, the Bureau will be able to evaluate the extent to which its address list and maps, updated by the Postal Service's automated file and revised local review procedures, may reduce field canvassing and cost in future censuses.

Another example of an opportunity to reduce costs that we discuss is the early identification of housing units that are vacant or nonexistent. The Bureau's plan to have the Postal Service identify vacant and nonexistent housing units early in the enumeration process has the potential for significantly reducing the \$317 million the Bureau spent in 1990 for such identification. The Bureau could maximize those savings by ascertaining the earliest point at which housing units are accurately classified as vacant or nonexistent. The Bureau estimated that it could have saved from \$121 million to \$165 million by using letter carriers to identify vacant and nonexistent units in the 1990 Census. The range is based on the



extent of the Bureau's field canvassing to verify the Postal Service's classifications.

Sampling of nonrespondents also offers the opportunity for substantial savings. The Bureau estimated that under various response rate and sampling configurations it could have saved between \$429 and \$457 million of the \$560 million it spent on follow-up by sampling 30 percent of nonrespondents.

On the other hand, the ICM method could partially offset some of the potential savings that could be achieved by using other new methods discussed earlier. The amount of follow-up interviewing and clerical matching required by the Bureau's proposed methodology is unknown, but these procedures will have a major bearing on the cost of ICM and ultimately the cost of the 2000 Decennial Census. Because the Bureau currently plans to develop ICM estimates for each state, it anticipates that the sample size for its independent survey of census respondents will be several times the size of the sample used for the 1990 Post Enumeration Survey, which was 12,000 blocks. A statistical expert at the Bureau estimated that the sample size for ICM will have to be about 22,000 to 68,000 blocks, depending on the desired level of precision for the population estimate. Cost implications for this increase in sample size will depend on the degree of precision desired and the procedures used.

Decisions the Bureau makes on the basis of the results of the 1995 Test Census should significantly affect the overall cost of the 2000 Decennial Census. The Bureau plans to design an automated cost and progress system for the 1995 Test Census to capture measures of the actual cost of different census field and processing operations. According to Bureau officials, the system will collect cost information on the effects the new methods, as well as other aspects of the 1995 Test Census, such as printing and equipment.

In the past, the Bureau has had difficulties obtaining reliable cost information from its census operations. The Bureau's past cost accounting deficiencies could present similar difficulties for the 1995 Test. In our evaluation of prior Bureau planning activities, we said that the Bureau needed to place more emphasis on getting complete and accurate cost and productivity data for evaluation of its tests.<sup>12</sup> In our review of the 1990 Census, we found that even generally reliable information on the costs and benefits of important activities was extremely difficult to obtain. In many cases, because the Bureau's accounting structure allowed for commingling costs of dissimilar activities and because it lacked quality controls over the recording of those

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<sup>12</sup>See GAO/GGD-92-94.



costs, the Bureau could not determine the cost of various activities.

#### CONCLUSION

In our testimony before this Subcommittee last October we said that the Bureau's changes in the methods it planned to test in the 1995 Test Census contained promising proposals. We are generally encouraged by the progress the Bureau has made in developing the specific methods to test for the areas we examined for this testimony. It is important that the Bureau identifies the data needed from the test, collects complete and accurate cost information, and completes its evaluation so that the 1995 Test can provide policymakers the information that they need to make major decisions on the fundamental design of the 2000 Decennial Census.

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This concludes my prepared statement. My colleagues and I would be pleased to answer any questions.



## Related GAO Products

Bureau of the Census: Legislative Proposal to Share Address List Data Has Benefits and Risks (GAO/T-GGD-94-184, July 21, 1994).

Decennial Census: Promising Proposals, Some Progress, But Challenges Remain (GAO/GGD/T-94-80, Jan. 26, 1994).

Decennial Census: Test Design Proposals Are Promising, But Fundamental Reform Is Still at Risk (GAO/T-GGD-94-12, Oct. 7, 1993).

Decennial Census: Focused Action Needed Soon to Achieve Fundamental Breakthroughs (GAO/T-GGD-93-32, May 27, 1993).

Decennial Census: Fundamental Reform Jeopardized by Lack of Progress (GAO/T-GGD-93-6, Mar. 2, 1993).

Decennial Census: Opportunities for Fundamental Reform (GAO/T-GGD-92-51, June 10, 1992).

Decennial Census: 1990 Results Show Need for Fundamental Reform (GAO/GGD-92-94, June 9, 1992).

1990 Census: Limitations in Methods and Procedures to Include the Homeless (GAO/GGD-92-1, Dec. 30, 1991).

Expanding the Role of Local Governments: An Important Element of Census Reform (GAO/T-GGD-91-46, June 15, 1991).

Programs of the 1990 Decennial Census: Some Causes for Concern (GAO/T-GGD-90-44, May 21, 1990).

Critical Issues for Census Adjustment: Completing Post Enumeration Survey on Time While Protecting Data Quality (GAO/T-GGD-90-15, Jan. 30, 1990).

1990 Census: Comparison of Coverage Improvement Programs for 1980-1990 (GAO/GGD-90-8, Nov. 28, 1989).

Status of Census Bureau Plans and Preparations for the 1990 Census (GAO/T-GGD-87-6, Mar. 12, 1987).

The Census Bureau's 1984 Address List Compilation Test (Mar. 13, 1986).

A \$4 Billion Census in 1990? Timely Decisions on Alternatives to the 1980 Procedures Can Save Millions (GAO/GGD-82-13, Feb. 22, 1982)

(243057)



RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. THOMAS C. SAWYER TO  
WILLIAM M. HUNT

*Question.* GAO reported in 1992 that the Bureau's system for monitoring the cost and effectiveness of the many phases of the 1990 census was faulty. Can you comment on the system that will be used in 1995 to develop evaluations results and cost estimates?

*Answer.* The Bureau is currently developing its plans to evaluate the benefits and costs of various 1995 Test Census operations. Although the design of these evaluation systems is important, the actual implementation is crucial for producing data needed for making 2000 Decennial Census decisions. Appropriate internal controls are required to ensure that the costs and operational benefits are properly recorded. To accomplish these activities, the Bureau is relying almost exclusively on temporary employees to record these data for the 1995 test. Also, some operations may overlap resulting in the possible commingling of operational costs and miscoding of operational results.

Historically, the Bureau has been caught up in its desire to complete census operations and has lost sight that evaluation of operations and their cost implications is the main purpose of the test. Thus, it is essential that Bureau management concentrates on the data needed for evaluations, including cost of the data; and that it design systems to assure the quality of the data.

*Question.* How is the Census Bureau's reorganization going so far? Has the Bureau's financial management system improved?

*Answer.* The Bureau's reorganization plan to improve strategic planning and financial management went into effect in June 1994. An encouraging part of the Bureau's plan included elevating the level of responsibility for financial management. In its reorganization, the Bureau recognized the need for strong financial management leadership by designating four key positions: Principal Associate Director and Chief Financial Officer; the Comptroller; the Assistant Comptroller for Finance; and the Assistant Comptroller for Budget. As of late October 1994, only the position of Assistant Comptroller for Finance had been filled. Two positions, the Chief Financial Officer and the Comptroller, have only recently been advertised. Also, the person who was acting as Assistant Comptroller for budget recently announced his decision to transfer to another position, so this position will have to be filed as well.

The Bureau's financial management system must accommodate the large volume and diversity of transactions generated in a decennial census. The Commerce Department has recognized the need to improve its overall financial management system and is designing a new one. The Bureau will be included in the first phase of testing a new accounting system, but the Commerce Department does not expect to implement it until 1997. At this time, we cannot determine if the system will meet the Bureau's needs.

The Census Bureau needs a sound financial management system and strong leadership to direct it. The Director for the Bureau of the Census took office on November 7, 1994. We believe that it is important that she address the financial management aspects of the Bureau's reorganization early in her administration.

Mr. SAWYER. Let me ask you both, do you largely agree with the Academy's recommendation?

Mr. SCARR. Mr. Chairman, we have reviewed and are in the process of reviewing recommendations but, by and large, we are very pleased with the outcome of that effort and virtually agree with all of the recommendations. There are some differences, but I think that the report reflects the fact that we have worked closely with the Academy and the relationship has been very productive and helpful to us.

Mr. HUNT. From our point of view, I think we also generally agree with most of the recommendations made by the Academy. In fact, I think many of them reflect positions, long-standing positions, and things that GAO has had for some time. I am particularly appreciative of their big picture perspective though they really went at this and said what the game plan is, and obviously came up with something specific for 2000. But if we only do that, we are not doing the full job and their emphasis about looking broader than the census reform effort is a multi-decade initiative.



I really applaud them for that and their encouragement that comes through that. I also applaud them on the big picture perspective that, as we go about the process of trying to reform the census, we also need as the context for a broader look at the entire Federal statistical system itself and how it is managed, et cetera.

We have a huge investment, 70-some-plus agencies involved in various levels of activity in the statistical area, and I think at some point it would be good for the country, if nothing else, that we would take a much broader look and I think they recognize that, too.

I would say in terms of their views on the integrated coverage measurement, as I recall Dr. Bradburn's statement, that they see this as certainly part of the census taking for the 2000 Census. We think it is an important effort in 1995. However, we would not be able to go that far until we see the actual test results, et cetera. So we would have a little difference there. And we do have some concerns about the multi-form question, naive and Jack Kaufman has been focusing on that and, with your permission, I would like him to say a few words on that.

Mr. KAUFMAN. Similar to the comments that Dr. Bradburn raised this morning or this afternoon, we also have some concerns about the usefulness of the matrix sampling it received basically a cool reception from the data users. They are concerned that they will lose some data and that the cross tabulations which Dr. Bradburn referred to could be impaired somewhat so modeling will have to take place.

In this regard, we have to mention our concern that using the test, to use the multi-form questionnaire may not be the best use of the Bureau's resources because it may in fact unnecessarily complicate some other activities. For example, we are concerned with the implementation strategy for the questionnaire and, in particular, the use of the replacement questionnaire which we have endorsed for several decades.

Using the multi-form questionnaire would present the Bureau with logistical concerns and problems, like having the right forms to replace the forms that didn't come back. So we see that as one problem. It also could create problems on different data capturing for different types of data and also some editing that may be required in terms of the different forms.

Mr. SCARR. Mr. Chairman, could I respond to that just to clarify?

The test that is going on in the 1995 Test is not, strictly speaking, the kind of matrix sampling test that Norm was describing. It is basically a nested sample of questions that will enable us to at least determine with more precision the relationship between length of questionnaire and response rate.

We recognize that it is not a true matrix sample test because the resources were not available to plan for a true test in order to carry one out. I think that some of the comments that Jack made about the user concerns are warranted but I think that, in the long run, the jury is still out on that particular technology. In any event, we won't be informed until after the 1995 Test.

Mr. SAWYER. In subsequent measures of content, I guess I have been laboring under the assumption that at some point we would look at the subsequent application of the data, the kind of thing



that Dr. Bradburn—I think it was Dr. Bradburn—raised in his question about the appropriateness of continuous versus decennial measurement. And that really becomes a policy question as much as anything else.

Mr. SCARR. Yes.

Mr. SAWYER. Another question of policy really is more technical in terms of execution, but the traditional post-census local review that local governments have enjoyed becomes more difficult at least at the traditional point if in fact you are going to have an integrated, one number census.

What sort of means do you have in mind to supplement or supplant loss of that opportunity? First of all, is it a loss?

Mr. SCARR. Well, Mr. Chairman, we are hopeful that the legislation that is going to be marked up by this committee will enable us to deal with the local governments in such a way that that—that the importance if not the necessity for post-census local review will basically be reduced because we will be in a position to assess more directly the adequacy of address lists that we actually use to conduct the census and so that we will have a better grounding to talk about differences that may ensue between our list and theirs. Did we have a list appropriate for conducting the census or not.

Your other point is well taken, but I think that is really what we are relying on at this point, is trying to develop a relationship with State and local governments that enables us to be assured that we are in effect using the best address list we can as the frame for the census.

Mr. HUNT. Mr. Chairman, could I add one point? In our work back in the 1990 Census, we found that local governments, very few local governments as a percentage of all local governments really participated in either the pre- or post-census local review. Most of all of the big cities of course did, et cetera, but most of the local governments didn't have the resources, the information the capacity, really, to offer much.

I think as I remember—and this is stretching here—about 19 percent of eligible local governments participated in pre-census local review and something in the vicinity of 25 percent participated in post. And from our work, we found that a lot of folks out there were saying it is really hard to do without the addresses, so I think the Bureau's efforts here may actually help not only to get more participation, but more quality input from the local governments in terms of improving the address list. The issue that I mentioned in my testimony is the confidentiality question. They need to be aware of that and how that is balanced.

Mr. SAWYER. Mr. Hunt mentioned the importance of measuring statistical uncertainty results from nonresponse follow-up sampling. And clearly it has been viewed as a cost-saver. But one of the things that seemed to be clear from 1990 was that the greater the lag from the time of conduct of the original enumeration to the completion of nonresponse follow-up, the lower the quality of the data.

Is this being measured in those terms as well or just largely in terms of cost and uncertainty?

Mr. SCARR. In terms of the 1995 Test, Mr. Chairman, we are basically measuring whether we can do it and what the results look



like. We do have a program and we are examining some simulations with the 1990 Census to basically answer the question: Had we done nonresponse follow up with various percentages, what would the data have looked like based on the sampling procedure as compared to the quote, unquote, total enumeration.

So that is the context in which we will be able to deal more directly with your question about the accuracy and the quality of the results of the follow-up. In terms of the 1995 Test, no, we are doing the follow-up in all the sites to see how well we can do it.

Mr. HUNT. It is also important, I think, to make sure that measure is well known because of this debate. There is big debate on this for a policy level as well as a technical level. I think it is very important from the technical side of things that we get the record straight as to what is and what is not the case.

Mr. SAWYER. Just as much a concern is the broader question of Integrated Coverage Measurement and the actual technical conduct of that. Do you expect to publish those procedures prior to the conduct of the test?

Mr. SCARR. Are you asking with respect to the test, Mr. Chairman, or with respect to the decennial census?

Mr. SAWYER. With respect to the test.

Mr. SCARR. With respect to the test. I believe we are. I am sure if we make a decision to use it in the 2000 Census, it will be published.

Mr. SAWYER. The only reason I say that is the time of evaluation will be so relatively short.

Mr. SCARR. We will specifically articulate the basic ground rules and procedures we will use to evaluate that.

Mr. SAWYER. Are you going to be able to complete all the evaluations by the end of 1995?

Mr. SCARR. Yes.

Mr. SAWYER. Great answer. You say that without regard to appropriations decision, I assume? Maybe not—

Mr. SCARR. I am an optimist.

Mr. PETRI. All right. I appreciate your testimony and you being here.

I do have a couple underlying concerns I guess to go back to Dr. Bradburn's comment about in the course of all this, wondering how this will be taken at the end of the day so far as the perception of fairness is concerned in addition to technical considerations.

My impression is that the Census Bureau exists in good part because of the political controversy in England having to do with the rotten boroughs that was finally solved by the reform act and the people in this country figured, if we are going to set up a new country, we might as well do it right and make these regular readjustments basically for electoral purposes.

And I am afraid that my perception is that many of the things that you are doing will drive us to a new kind of rotten borough, where you will have legal citizens surrounded by a sea of illegals who are counted and, therefore, those will have two or three times the vote and representation, that is to say, than the citizens who happen to be so fortunate as to live in areas that don't maintain the law as people living in an area being 100 percent legal.



Now, Jefferson faced the same problem in a sense in his time and he did not bother counting or trying to estimate the Indian tribes and others unless they were participating in the community and paying taxes or otherwise members of the colonial communities. So I just ask you if you are making some efforts to try to adjust for that factor because the one major purpose of the census is for representational purposes and we may be skewing things or causing a lot of tensions.

If it would be helpful to have a census for human need, fine, then count everyone. But for purposes of electoral representation, it seems to me Americans and those who are legally here probably ought to be considered, and those who aren't here legally ought not to be given representation in the electoral system.

And secondly, we have millions of Americans now, and the numbers are growing very fast, living around the world paying taxes and voting who are aren't counted. Is any effort being made to do a better job of trying to estimate or count or gather data as we do for military personnel for nonmilitary personnel around the world who are American citizens and who are voting and entitled to be represented but whose presence may be overlooked?

Mr. SCARR. Mr. Petri, the Census Bureau basically relies on using residence rules that have been developed, basically, since I think the first census and the Bureau does not distinguish between—the Bureau only counts residents, it doesn't distinguish between class of residents in the course of the conduct of the census.

There are efforts made after the census to analyze and to basically characterize the population in terms of the immigrant population and to make some estimates, I think, of illegal or undocumented immigrants that you are referring to, but we have not looked in detail at the possibility of doing something in the context of the census with respect to that.

With respect to counting citizens overseas, you are correct, we can count fairly well the military and basically the Federal employees overseas. We have looked into that, but the difficulty of assigning them back to their State of residence and the difficulty of preventing duplication has been unable to make us form one single procedure for that. However, that will be looked at in the context of planning for the 2000 Census. We have not, however, in all candor, concentrated on that in terms of our 1995 Census Test which is largely a test of procedural matters to deal with the broader part of the population.

Mr. PETRI. I would suggest, in addition to working with the Post Office, you might consider working with the State Department and Visa, and if they are American citizens or legal residents, they have it down with greater precision probably. And you may have some duplication, but they worry about that themselves, they are not supposed to be issuing the same category of passports in duplication. It should be readily available.

Mr. SCARR. We will take your guidance and look into that.

Mr. PETRI. I have some questions I could submit for the record and also one or two more to ask. During the last census, the State I represent invested a half million dollars or more in census promotion. I know other States did around the country on a voluntary basis to try to get as good a count as possible and a lot of local ju-



risdictions worked enthusiastically to promote compliance with the census. I did myself and so did other officials, both elected and non-elected.

If the Bureau estimates the number of people it misses in the actual enumerations, do you think that States like mine will have the same incentive to promote the census, and can you tell me if any States or localities have expressed any concern about this to the Bureau?

Mr. SCARR. We hope that all States will have the same incentive if we incorporate sampling procedures because we are concerned that as a national problem, we have to use both coverage and sampling in order to come up with the kind of census that we all want.

We recognize that there is a great deal to do in terms of basically informing people and to basically overcome the perception that this will necessarily result in a less accurate census. We are hopeful that our efforts in this area will lead people to be motivated to participate in the census as they have been in the past.

Mr. PETRI. All right. Thank you very much.

Mr. SAWYER. Let me just do a couple of follow-ups.

Mr. Hunt, in particular. Mr. Petri had mentioned earlier the concerns that we have heard about, the effect of sampling error on small area data. Do you have any thoughts on how the Bureau might address those concerns?

Mr. HUNT. Well, we for a long time have been urging the Bureau to really do that to get at and be able to determine what the effects are of sampling error because no matter what estimation technique may eventually be employed, you are going to have that problem to deal with.

And as Dr. Scar just said, that they are looking at that treasure trove of data, the 1990 Census data and running some simulations which I think is a very good step, it may be helping to nail down somewhat better and more precisely what the exact error is. I think that is what we really all need to work toward.

This is a very controversial issue. There are policy positions across the full spectrum. What we really need to do is make sure that we identify the technical issues that are necessary to or tools that are necessary to be employed in any kind of an estimation effort so everyone can see what the effects are because I think ultimately what we are all shooting for is getting it right, getting it reasonably right, and certainly one of the major goals has to be to avoid or get rid of the differential undercount.

Mr. SAWYER. Are you comfortable with the amount of outside expertise that the Bureau has made use of?

Mr. HUNT. Well, I think that this is a controversial issue and I think, as we go along, it will continue to get perhaps a bit more controversial. It certainly is playing its way through the courts as we all know now.

Mr. SAWYER. I am certain we are going to have lots of voluntary outside expertise.

Mr. HUNT. Right. I think it would be of some value actually to have an outside panel of experts to kind of come in and sort of be seen as the neutral competence in this area. So I would support that in terms of who that might be. There are probably any number, but I would suggest possibly not promoting anyone necessarily



but the American Statistical Association should may be a player to be considered in that process, so I think that would be good.

Mr. SAWYER. Well, thank you all very much. We appreciate your presence here today. I really appreciate the effort to focus and summarize the testimony. I know it was difficult.

There was a lot of material here and I appreciate both the effort in compiling it and summarizing it here today. Thank you.

Our final panel this afternoon is made up of Scottie B. Hicks, the President of the National Rural Letter Carriers Association; and Francis J. Conners, Executive Vice President, National Association of Letter Carriers.

Welcome gentlemen. Let me again reemphasize that you are free to summarize your testimony in any way that serves your purpose and, without objection, I would like to include in today's record a statement from the National Association of Postmasters and one from the National League of Postmasters of the United States.

[The prepared statements of Mr. Games and Mr. Brennan follow:]

PREPARED STATEMENT OF DAVID GAMES, PRESIDENT, NATIONAL ASSOCIATION OF  
POSTMASTERS

Thank you for providing us with this opportunity to express our views on the Postal Service's role in planning the 2000 census. You have asked for information on the degree to which postal employees might offer assistance with census procedures.

The National Association of Postmasters of the United States (NAPUS) represents more than 42,000 active and retired postmasters throughout the country. As civic-minded citizens, our members are pleased to cooperate with the Census Bureau. However, we must temper our civic interest with our concerns for prompt mail delivery and respect for the privacy of our postal customers and their families. Therefore, we support the findings of the Postal Service and the Census Bureau as presented in their November 5, 1993 report: *USPS-Census Cooperation in Planning for the 2000 Decennial Census of Population and Housing*.

As the report indicates, we do not believe it would be feasible for letter carriers to take on this data collection activity. While the city and rural letter carriers will certainly want to address this issue thoroughly in their testimony, we can offer you our thoughts as postal managers. First, we believe that the data collection activity will interfere with our primary mission, which is the prompt delivery of the mail, and will unreasonably extend the time necessary for route completion.

Second, we believe a large number of postal customers would perceive the conduct of the carriers as a violation of their privacy rights. Postal carriers deliver bills, bank statements, legal papers and other important and private documents to customers on a regular basis and the postal service guarantees the public that these materials are kept private. If a carrier were then to ask questions about such potentially delicate issues as financial or marital status, it might bring this guarantee of privacy into question. We believe strongly that the customer's privacy rights should be inviolable.

A third and extremely important issue is that of carrier safety. If carriers were required to carry out data collection activities, particularly as part of their regular routes, it could mean that these people would be out much later at night than normal. In some neighborhoods, this might not be safe. We could not condone any activity that would place the carrier's safety in jeopardy.

It was also suggested that carriers might be able to provide basic census information without contacting postal customers. This is extremely impractical. Mail delivery has changed considerably in the last two decades. Because more women work, fewer residents are home during delivery hours. More people live in apartments, condominiums and other multiple housing units. Also, people are far more transient. For these and other reasons, carriers do not have the same level of personal knowledge about their customers that was traditional within the Postal Service. Census information collected by carriers without resort to personal interviews would be basically guesswork and would be statistically unreliable.

Of course, we do agree that there are some areas in which we could work together with the Census Bureau. For example, postmasters and postal employees would be



pleased to assist the census in identifying vacant housing and in insuring completion and accuracy of addresses. However, it may not always be possible for postmasters to match physical addresses to post office box numbers since they may not always have that information. We would also be pleased to provide space in the post offices for additional questionnaires or other promotional material where space is available.

Thank you for providing us with an opportunity to comment on these issues. Please let us know if we can provide you with any further information.

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PREPARED STATEMENT OF WILLIAM P. BRENNAN, PRESIDENT, NATIONAL LEAGUE OF POSTMASTERS

Chairman Sawyer and members of the Subcommittee on Census, Statistics and Postal Personnel, thank you for this opportunity to testify on the use of Postal Personnel to assist with the 2000 Census operations.

I am Bill Brennan, President of the National League of Postmasters. In this capacity, I am privileged to represent all of this nation's Postmasters, both active and retired.

It makes sense that the Census Bureau would view postal employees as a potential resource in collecting the Census efficiently and that the bureau would seek to expand the role of the Postal Service in their endeavors. However, we must review the feasibility of the different aspects of increased involvement.

Two characteristics of Postmasters would make them a valuable census resource. First, they are located in every corner of this country. Their even distribution across this land gives the Postal Service access to and knowledge of the entire population of the United States.

As leaders in their communities, Postmasters are civic minded and proud to be representatives of their country. Their position and involvement bring them respect and trust from their fellow citizens.

Because of this distribution and patriotic attitude, they may be uniquely qualified to assist with the decennial collection of census data.

However, their involvement should be limited to certain areas.

Unfortunately, as you know, many people view the census as an "invasion of privacy." Because a Postmaster carries a trust that should never be jeopardized, I could not recommend the use of active postal employees as enumerators. However, postal retirees might be excellent candidates for such a job.

The privacy issue and legal considerations, as well, are drawbacks to using the Postal Service to name occupants of buildings.

The use of the Post Office building as an information center or assistance center is a feasible idea. Issues to be addressed would be costs involved and space available. The building would need sufficient space to avoid inconveniencing the regular postal customer.

Manpower for information or assistance centers could come from part-time postal employees and retirees.

Postmasters have a wealth of knowledge in areas where no direct public contact is required. They could help locate houses, identify housing which is vacant and assist with address problems. This would increase the efficiency of the census and reduce costs by decreasing dry-runs by enumerators.

However, the postal employee would require compensation at a rate equivalent to their postal salary and that compensation should not come from the Postal Service.

The National League of Postmasters cannot support any activity which creates a cost for the Postal Service, causes a disruption of mail service or compromises the trust given a Postmaster. Otherwise, the League feels postal employees and retirees are in a unique position to help with the Census.

We look forward to working with you, the Postal Service and the Census Bureau in using our unique position to obtain accurate Census data.

Thank you.

Mr. SAWYER. Welcome. Mr. Hicks.

**STATEMENTS OF SCOTTIE B. HICKS, PRESIDENT, NATIONAL RURAL LETTER CARRIERS ASSOCIATION; AND FRANCIS J. CONNERS, EXECUTIVE VICE PRESIDENT, NATIONAL ASSOCIATION OF LETTER CARRIERS**

Mr. HICKS. Thank you, sir.



Mr. Chairman and Members of the Subcommittee on Census, Statistics and Postal Personnel, we are pleased to have this opportunity to give our views on the role that rural letter carriers may have in assisting the Census Bureau as it plans for the 2000 Census.

Rural letter carriers are privileged and proud to be public servants that have regular contact with their customers on a daily basis. Perhaps we also have more daily contact with the public than any other member of the Federal work force and probably the State, county, and municipal work forces. Rural carriers welcome an opportunity to cooperate with another branch of the Federal Government, as that Bureau tries to execute their mandate.

Letter carriers' prime duty is providing service to our customers principally through the delivery of mail, but in the case of rural letter carriers, we provide any service that can be obtained through a Post Office. We sell stamps and money orders, accept parcels, Express Mail, and perform customer service as a Post Office on wheels.

We are proud to say today there are 52,000 rural routes that provide full services daily to our customers. We serve 24 million customers a day and drive 2.7 million miles. As in the past, we are glad that the Postal Service and the Census Bureau have a cooperative agreement in doing the planning, and the NRLCA is pleased to assist the committee in their exploration of how we as a part of the Postal Service can assist them in their next enumeration.

We believe we can be most helpful in address list completion. We know almost all of the individual delivery territory. Rural letter carriers also are familiar with addressing and delivery methods and, therefore, we believe we can be helpful in determining for the Census Bureau the vacant housing units.

Postal management and rural carriers can be helpful in dealing with rural address problems which are unique to rural America. Thirdly, we believe that we can be helpful in determining occupancy status. And four, all of those can be done without any direct contact with the individual household.

But there is a larger question. Is there a more direct role for rural carriers in conducting the 2000 Census? It has been suggested by some that rural letter carriers could be helpful with households that don't return data. However, there are some natural roadblocks which we should point out to obtaining data without direct contact with those households.

Cluster box units prevent rural carrier from having a direct knowledge of many of the households. In some rural communities, there are long distances between the customer's house and their mailbox. Current economic pressures require many households to become two income families. Therefore, the majority of people work during the day when there would be no one at home for the carrier to contact. In fact, the family sometimes chooses to receive mail in a Post Office box and thereby eliminating any contact with the carrier.

For the reason stated above, the rural carrier would have no direct contact and very limited knowledge of the customer. Obtaining basic census information would, therefore, be a hit or miss proposition.



We believe also that the cost of using the full-time rural carrier to do specific enumeration is a confiscatory proposition in that the average rural carrier is paid significantly more than the average 1990 Census enumerator who was about \$7.50 an hour.

Secondly, there is a question of trust and privacy of postal customers. The public now presumes that carriers handle their financial documents including bills, payments, and legal notices with absolute confidentiality. In all of the customer satisfaction indexes, rural letter carriers rank very, very high with postal customers because today we protect their privacy and provide good service. We are somewhat fearful that if you used us as enumerators, that trust might be diminished at a time that we believe it is particularly crucial for the Postal Service to maintain a high degree of trust with its mailing public.

If in spite of these reservations the Census Bureau thought it was still advantageous to consider rural letter carriers to be used as enumerators, we have an alternative suggestion. The National Rural Letter Carriers Association represents about 45,000 backup employees. These are noncareer employees who cover routes when the assigned carrier is absent. These backup employees are paid approximately \$12 an hour, much closer to the \$7.50 an hour that was paid in the 1990 Census for enumerators and much less than the full-time carriers.

These individuals could possibly be used over a period of time when they were not serving their routes as a replacement to the assigned carrier. A customer might feel more comfortable if the interviewer is not the person delivering their mail on a daily basis, just the one that they see on Saturday or when they are serving as a leave replacement on the route.

But we do believe that the best use of rural carriers for the 2000 Census is not serving as enumerators but rather by using their knowledge for the development of a complete and accurate mailing list, their specialized knowledge of occupancy and vacancy information. If the Census Bureau desires to consider our leave replacements, we would be glad to explore that feasibility with the Postal Service and with the Census Bureau.

Mr. Chairman, Mr. Petri, that concludes my remarks, but I would be pleased to answer any questions you may have on this subject. But I would be remiss if I did not thank you personally, Chairman Sawyer, and Mr. Petri, for your relentless determination to pass H.R. 4190, the Leave Replacement Bill, into law. We are confident that the President will sign it and are very, very grateful to you for all your efforts in that regard.

Thank you.

Mr. SAWYER. Thank you for your testimony.

[The prepared statement of Mr. Hicks follows:]



PREPARED STATEMENT OF SCOTTIE B. HICKS, PRESIDENT, NATIONAL RURAL LETTER CARRIERS ASSOCIATION

Mr. Chairman and members of the Subcommittee on Census, Statistics and Postal Personnel, we are pleased to have this opportunity to give our views on the role rural letter carriers may have in assisting the Census Bureau as it plans for the 2000 Census.

Rural letter carriers are privileged and proud to be public servants that have regular contact with their customers on a daily basis. Perhaps, we also have more daily contact with the public than any other member of the federal work force and probably the state, county and municipal work forces. Rural carriers welcome an opportunity to cooperate with another branch of the federal government, as that Bureau tries to execute their mandate.

Letter carriers' prime duty is providing service to our customers principally through the delivery of mail, but in the case of rural letter carriers, we provide any services that can be obtained through a Post Office. We sell stamps and money orders, accept parcels, express mail and perform customer service as a Post Office on wheels.

We are proud to say, today there are 52,000 rural routes that provide a full coverage of services daily. We serve 24 million customers a day and drive 2.7 million miles. As in the past, we are glad that the Postal Service and the Census Bureau have a cooperative agreement in doing the planning, and the NRLCA is pleased to be able to assist the Committee in their exploration of how we as a part of the Postal Service can assist them in their next enumeration.

Rural letter carriers believe they could be most helpful in address list completion. Rural letter carriers know almost all of their individual delivery areas. Rural letter carriers also must be familiar with addressing and delivery methods. Therefore, we believe we can be helpful in determining for the Census Bureau, vacant housing units. Postal management and rural carriers can be helpful in dealing with rural address problems which are unique to rural America. Thirdly, we believe that we can be helpful in determining occupancy status. And all of those can be done without any direct contact with individual households.

There is a larger question. Is there a more direct role for rural carriers in conducting the 2000 Census? It has been suggested by some that rural letter carriers could be helpful with households that don't return data. However, there are some natural road blocks which we should point out, to obtaining data without direct contact with those households: 1. Cluster boxes prevent rural letter carriers from having a direct knowledge of many households 2. In some rural communities there are long distances between the customer's house and their mail box 3. Current economic pressures require many households to become two income families. Because the majority of the people work during the day, there would be no one at home for the carrier to contact. In fact, the families sometimes choose to receive mail in a Post Office box



and thereby eliminate any contact with the rural carrier.

For the reasons stated above, the rural carrier would have no direct contact and limited knowledge of the customer. Obtaining the basic census information would therefore be a hit or miss proposition.

We also believe that the cost of using the full time rural carrier to do specific enumeration is a confiscatory proposition in that the average rural carrier is paid significantly more than the average 1990 Census enumerator who was paid about \$7.50 an hour.

Secondly, there is the question of trust and privacy of Postal customers. The public now presumes that carriers handle their financial documents including bills, payments and legal notices with absolute confidentiality. In all of the customer satisfaction indexes, rural letter carriers rank very, very high with their Postal customers because today we protect their privacy and provide good service. We are somewhat fearful that if you used us as enumerators, that trust might be diminished at a time that we believe it's particularly crucial for the Postal Service to maintain a high degree of trust with its mailing public.

If, in spite of these reservations, the Census Bureau thought it was still advantageous to consider rural letter carriers to be used as enumerators, we have an alternative suggestion. The National Rural Letter Carriers Association represents about 45,000 backup employees. These are non-career employees who cover routes when the assigned carrier is absent. These backup employees are paid approximately \$12 an hour, much closer to the \$7.50 an hour that was paid in the 1990 Census for enumerators and much less than the full time carriers. These individuals could possibly be used over a period of time when they were not serving their routes as a replacement to the assigned carrier. A customer might feel more comfortable in that the interviewer is not the person delivering their mail daily, just the one that they see on Saturday or when they are serving as a leave replacement.

We believe that the best use of rural carriers for the 2000 Census is, not serving as enumerators, but rather by using their knowledge for the development of a complete and accurate address list and using their specialized knowledge of occupancy/vacancy information. If the Census Bureau desires to consider our leave replacements, we would be glad to explore that feasibility with the Postal Service and with the Census Bureau.

Mr. Chairman, that concludes my remarks, I would be pleased to answer any questions you or the committee might have.

Now I would be remiss if I did not thank you particularly, Chairman Sawyer, Mrs. Norton, Mr. Myers, Mr. Petri for your relentless determination to pass H.R. 4190, the leave replacement bill, into law. We are confident the President will sign it and are very, very grateful to you for all your efforts in our regards.



Mr. SAWYER. Mr. Conners.

Mr. CONNERS. Chairman Sawyer and Mr. Petri, I am Francis J. Conners, Executive Vice President of the National Association of Letter Carriers, AFL-CIO. The NALC represents city letter carriers actively employed by and retired from the United States Postal Service. On behalf of the 310,000 Members of the NALC, I am pleased to share with you my thoughts about the role that letter carriers can play in the next decennial census.

City and rural letter carriers deliver mail to every residential address in the Nation. As a result, letter carriers already play a crucial role in the next decennial census. Furthermore, the expanding cooperative efforts between the Census Bureau and the Postal Service utilizing the unique talents and knowledge of letter carriers will help to identify vacant housing units, recently reoccupied residences and hard-to-locate homes. This joint venture will also help to reduce the costs associated with unnecessary enumerator visits and improve the accuracy of the census.

In addition to increased efficiency, the NALC believes that the cooperation between the Postal Service and the Census Bureau is an effective way to ensure the credibility of census data. However, we do not support a major change in a letter carrier's job description to include census enumeration. The primary task of the letter carriers must continue to be the efficient and expeditious delivery of the mail.

Requiring letter carriers to perform the additional assignment of enumeration on top of their primary duties will compromise the timely delivery of mail. Furthermore, the extra responsibility would obligate overtime pay for carriers who are forced to remain on their route in excess of the normal work day. This additional financial obligation would seriously undermine the financial standing of the Postal Service and could impact rates. It goes without saying that the Postal Service must be fairly compensated for any functions provided to the Census Bureau.

However, substantive assistance may be provided to the Bureau within the context of its existing cooperative efforts with the Postal Service. Additionally, the NALC is supportive of the increased opportunities for active letter carriers to participate in the enumeration process, that is paid for by the Census Bureau and voluntarily on their own time.

I believe that letter carriers are more than qualified as enumerators. After all, no one knows the community better than letter carriers and the same skills necessary to be a letter carrier are important to be an enumerator. As you know, a large percentage of households do not return their forms. Letter carriers would not be deterred from visiting housing units from which a questionnaire has not been returned.

Approximately five years ago, the NALC strongly supported legislation introduced by you, Mr. Chairman, and Mr. Ridge which removed a significant financial obstacle for retired letter carriers who wished to serve as enumerators across the country.

The measure removed the Federal pension offset penalty, a major financial disincentive for retired letter carriers from serving as enumerators. Consequently, we believe that retired letter carriers would be a valuable asset in conducting the census.



Mr. Chairman, the NALC appreciates your interest in this issue and we look forward to working with both the Census Bureau and the Postal Service in ways to appropriately use the talents of active and retired letter carriers.

Thank you.

[The prepared statement of Mr. Conners follows:]



PREPARED STATEMENT OF FRANCIS J. CONNERS, EXECUTIVE VICE PRESIDENT,  
NATIONAL ASSOCIATION OF LETTER CARRIERS

Chairman Sawyer and members of the Subcommittee, I am Francis J. Connors, Executive Vice President of the National Association of Letter Carriers, AFL-CIO. The NALC represents city letter carriers actively employed by and retired from the United States Postal Service. On behalf of the 310,000 members of the NALC, I am pleased to share with you my thoughts about the role that letter carriers can play in the next decennial census.

City and rural letter carriers deliver mail to every residential address in the nation. As a result, letter carriers already play a crucial role in the decennial census, delivering these census forms to every household in the United States. Furthermore, the expanding cooperative efforts between the Census Bureau and the Postal Service, utilizing the unique talents and knowledge of letter carriers, will help to identify vacant housing units, recently reoccupied residences, and hard-to-locate homes. This joint venture will also help to reduce the costs associated with unnecessary enumerator visits and improve the accuracy of the census.

In addition to increased efficiency, the NALC believes that the cooperation between the Postal Service and the Census Bureau is an effective way to ensure the credibility of census data. However, we do not support a major change in a letter carrier's job description to include census enumeration. The primary task of the letter carriers must continue to be the efficient and expeditious delivery of the mail. Requiring letter carriers to perform the additional assignment of enumeration on top of their primary duties will compromise the timely delivery of mail. Furthermore, the extra responsibility would obligate overtime pay for carriers who are forced to remain on their route in excess of the normal work day. This additional financial obligation would seriously undermine the financial standing of the Postal Service and could impact rates. It goes without saying that the Postal Service must be fairly compensated for any functions provided to the Census Bureau.

However, substantive assistance may be provided to the Bureau within the context of its existing cooperative efforts with the Postal Service. Additionally, the NALC is supportive of increased opportunities for active letter carriers to participate in the enumeration process -- that is, paid for by the Census Bureau and voluntarily on their own time. I believe that letter carriers are more than qualified as enumerators. After all, no one knows the community better than letter carriers and the same skills necessary to be a letter carrier are important to be an enumerator. As you know, a large percentage of households do not return their forms. Letter carriers would not be deterred from visiting housing units from which a questionnaire has not been returned.

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Mr. Chairman, the NALC appreciates your interest in this issue, and we look forward to working with both the Census Bureau and the Postal Service in ways to appropriately use the talents of active and retired letter carriers. Thank you.



Mr. SAWYER. Thank you both very much. Just let me say that I suspect the trust question works two directions, that the distinct purposes in the sense of the privacy and confidentiality that both the Census Bureau and the Postal Service are engaged in makes it difficult to blend them in the actual execution of the census.

But that notwithstanding, we have talked a good deal about the ability of the Postal Service to share with the Census Bureau address information which includes delivery points but not necessarily all housing units. You both touched on that.

Would letter carriers be of assistance in finding irregular or hard-to-find housing units that are not regular delivery points?

Mr. CONNERS. I don't think they would have any trouble with that at all, sir.

Mr. HICKS. I concur with that, sir.

Mr. SAWYER. You think it would be a useful application?

Mr. CONNERS. Yes.

Mr. HICKS. Yes.

Mr. SAWYER. There is a lot of variation, particularly in rural areas between the proportion of box customers and home delivery. How much variation from one place to another?

Mr. HICKS. It varies depending on the part of the country you are talking about. But anymore, we deliver 2.7 million miles a day in rural and urban areas. We encompass quite a bit of the area that there is out there available to serve. Over time, I personally have participated in the 1960 and 1970 and 1980 Census as a rural carrier on the route, and there was fallacies in the system as it developed through the Postal Service and the Census Bureau but it was not directly related to the inability to find those hard-to-locate addresses or the people.

It may be the time of year it was conducted or the information that was requested by the Census Bureau through the Postal Service that the individual carrier gave information back on. So, from my perspective, there is an excellent opportunity to capitalize on the individual knowledge of the individual carrier about the delivery terrain territory, vacants, temporary vacants, et cetera.

Mr. SAWYER. Let me ask you, there are a lot of different kinds of information that has been suggested that letter carriers might be able to bring to the conduct of the census. Could you just evaluate for me questions like the ability, each by each, of the letter carriers to bring information about the occupancy status of a housing unit; the number of individuals living there; the kinds of relationships among people who live in a household; husband, wife, child, parent, boarder; or basic demographic characteristics, the kinds of things we have been talking a lot about around here in terms of race or age or the other questions that measure a population.

Mr. CONNERS. In many cases, I believe we can determine who lives in a house, how many people, how many families may live in a house, but in some circumstances, it would be difficult because we may not be sure ourselves exactly how many live in a house or how many families there are, but we could provide a lot more information than you receive at the present time.

Mr. HICKS. I think predominantly, the more rural area you get into, the more accurate that information would be because you tend to know those customers on a much more personal basis than you



do the more urbanized and the more apartment-type, city-type, two-income earners. So I do think in the more rural remote areas, they have an excellent knowledge of that.

Mr. SAWYER. All right.

Mr. Petri.

Mr. PETRI. I want to thank both of you for coming here today and your organization for developing the suggestions that you have, and I happen to represent a mixed—we don't think it is all that rural, but I basically, if you are from Chicago or a big city, they think it is rural area and the——

Mr. SAWYER. Are there sidewalks between the houses?

Mr. PETRI. Fully every one of my corners has an electric stop-and-go light, so we have urbanized.

Anyway, the rural letter carriers are among the most accurate in all sorts of community organizations from serving on town boards and so on and so forth. This would be—I am glad you are bringing to the attention of this committee and to the Census Bureau in this way something that I suspect we know institutionally because of past censuses but need to be reminded of, and that is there is a tremendous resource there and it would be mutually beneficial for some full-reserve carriers and others to participate in this process at the time they are getting enumerators and so on.

I will be happy to work with you as this process goes forward. Thank you again for coming.

Mr. SAWYER. Thank you both very much. We may want to submit questions that deal more directly with the kinds of real world consequences on job descriptions and contract negotiations and all those tougher kinds of questions, but I think your positions with regard to that sort of thing you made very clear in your testimony. Thank you both very much.

We had hoped to complete as a part of this meeting a markup this afternoon. We are having difficulty with attendance at this point, and so we want to announce that we are going to postpone until 9:15 tomorrow morning the markup we planned for this afternoon.

If there is no further business coming before us, we stand adjourned.

[Whereupon, at 4:04 p.m., the subcommittee was adjourned.]















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